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URBAN GROWTH AND DEVELOPMENT

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A PROBLEM APPROACH

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SIMMONS-BOARDMAN PUBLISHING CORPORATION

NEW YORK, 1962

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Library of Congress Catalog Card Number: 62:13567

PRINTED IN THE UNITED STATES OF AMERICA

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Preface

The United States is urbanizing at a rapid pace. By 1975 substantially less than 10 per cent of the population will be counted as rural. As our present urban areas expand and new areas form, problems of social, political, economic, and psychologic adjustment have become more profound and baffling than any faced in peacetime since the nation's founding. So fast is the change of pace, so numerous are the elements in the scene, and so complex are their interrelationships that we tend to be frustrated in our attempts to understand and act. Too many of our energies are trickling fruitlessly away as they are applied in uncoordinated attempts to contend with such problems as traffic, blight, municipal finance emergencies, annexation battles, and balancing of local economic development, among others. What is needed, of course, is a field theory that will coordinate thinking and action, which will provide some basis for distinguishing cause from effect, and guidance toward some understanding of how the seemingly diffused and disassociated phenomena of city creation, adaptation, and evolution are related.

This book does not provide the field theory which is so sorely needed. It does, however, take a step in that direction by means of an admittedly elementary discussion of the problems of urban adjustment to growth which are controversial in nature. A basic first step in all research procedure directed at problem-solving is to arrive at a statement of the nature of the problem. Where controversy exists there are, obviously, two or more views of a particular situation. It is only through knowledge of the leading views on an issue that we can, finally, through careful thought, research, and selection arrive at a single statement of a problem. Whenever the scene of controversy is as large and as confused as the present one, there is a real danger that some statements of a problem will not be widely heard or read. Or it may happen that differing views

will not be presented together, thus inhibiting the formation of balanced judgment. One of the major objectives of this book is to present two or more conflicting views on each of eight major areas of controversy in the field of urban growth. In a more general sense it is the author's belief that controversial discussion rather specifically focused on small segments of this larger problem area will stimulate interest and subsequent thought to the high level which is necessary if we are to face up effectively to the challenge of the urban revolution that is upon us. It is the writer's further hope that thought sharpened in exchange will make us begin to think more deeply of what we want our cities to become—no longer the products of imponderable biologic and social forces but the handiwork of hard thinking human beings with a stern desire to control their environment rather than be ruled by it.

In those parts of the text where a rather strict pro and con approach is employed no attempt is made to counter each point raised. This is done for the rather obvious purpose of stimulating original rebuttals from the general reader and from the student in particular. No attempt is made at the end of each chapter to support one view over another—answers must be those of the reader and the group.

The level of interpretation in this book is directed to interested laymen, to professional people in the fields of real estate and city administration, and to upper classmen of liberal arts colleges, schools of business administration, and city planning. While the bias of the discussions is strongly economic, depth and perspective are provided by appropriate admixtures of sociology, geography, law, and political science. The book, when extended with local study materials and discussions of issues, can be used as a basic instructional text or as an idea source book in the further explanation and analysis of local growth problems. It will also be useful as a supplementary work in basic courses in urban land economics, real estate, urban sociology, urban geography, local government, and city planning.

Critical readers will note that separate chapters do not appear which treat such important economic problem fields as

municipal finance and urban renewal. However, extensive comment bearing on these subject areas appears throughout the book.

The book opens in Chapters 1 and 2 with a discussion of the city economies. Here are presented the arguments and opinions which bear on industrial development philosophy and procedures and on such broad urban economic questions as the provision of sufficient jobs for an expanding community population.

Central business district characteristics and problems are treated in Chapter 3. An attempt is made to appraise the future of this important city area in terms of the relative weights of the various and numerous elements of change that confuse public thinking at present.

In a discussion closely related to many of the essential ideas examined in connection with the central business district, Chapter 4 analyzes the dilemma of urban traffic and transit. In this analysis transit is placed in perspective relative to the total urban traffic picture, while the role of the automobile in molding both city structure and values is discussed at length.

Metropolitan area problems, which are examined in Chapter 5, focus primarily on the frictions that have developed, in the process of urban growth, between the city and the suburbs. Those disagreements which have arisen in connection with the financing of urban services and with annexation have received principal attention.

Basic issues in the field of housing are reviewed in Chapters 6 and 7. The essence of the problem approach in these chapters is that of cost. Particular attention is given to the less conventional proposed solutions which are then compared in terms of their potential effectiveness with more conventional cost reduction devices.

In Chapter 8 the position of minority groups in the modern American city is analyzed. The emphasis of the analysis is both economic and sociologic. Close attention is paid in the chapter to the implications of delayed adjustment on the part of urban

racial and nationalist majorities to the relatively sudden growth of minority groups within metropolitan areas.

Zoning, the subject of Chapter 9, is examined in terms of a critical review of a few of the more widely accepted theories that appear to be doing more harm than good to modern city development. One section of the chapter is concerned with the controversial topic of structural aesthetics and its amenability to formal controls.

The book closes with a discussion, in Chapter 10, of trends in neighborhood and metropolitan area design. It is the objective of the discussion to emphasize the economic, sociologic, and cultural costs which result both from poor design in the neighborhood and from lack of design for the metropolitan area.

* * * *

Many persons have contributed time and ideas to the preparation of this book, and several must be specifically mentioned in any summing up.

The preparation of the manuscript was in the competent hands of Mrs. Betty Thompson and Mrs. Joan Trattner. Mr. William Shuter reviewed the entire manuscript and made many helpful suggestions as to matters of syntax and style. The art work was conscientiously rendered by Mr. Charles Holzbog for whose talents I have great admiration. Several graduate students at the University of Wisconsin reviewed parts of the text.

Finally, my very special thanks go to my colleague Professor Richard U. Ratcliff whose ideas and inspiration over the years prompted the writing of this book.

Madison, Wisconsin

January 15, 1962 Richard Bruce Andrews

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1

Problems of Growth in the City Economies

Part I

Introduction

With the expansion in population which the United States has experienced since its eighteenth century beginnings, there has been linked an even more dramatic change in the manner of living of its people. We have, as a nation, moved from a 5 per cent level of urban dwellers in 1790 to nearly 90 per cent non-farm in 1960.[1] One of the basic explanations for this urbanization is the rapid development of economic activity, particularly commercial and manufacturing activity.

Psychologically we have been a nation which has been expansionist and optimistic where economic matters are concerned. This is partly a reflection of attitudes developed in the process of pushing back the physical frontier. But it is also a reflection of one of the most uninhibited expressions of free enterprise known to the modern capitalist world. This has meant that the desirability of growth, particularly quantitative growth, has been taken for granted. Those counseling caution have not only been in the minority but have been considered somewhat disloyal to the dominant economic and materialist philosophy.

Keeping in mind that cities are the focal point and machinery of expression of this national economic philosophy, are there any current indications of change?

One broad bit of evidence is that our national economy seems to be approaching maturity. Physical frontiers, always

strong stimulators of new and extended activity, have vanished. Economic frontiers, in the international trade sector, may be drastically changed if not impaired by the spread of industrialization throughout the world.[2] Whereas the frontiers of innovation are less easy to appraise, there are strong indications that this feeder to growth is not always encouraged to flower at its optimum by our business and institutional structure.

Another symptom of economic maturity takes shape in the ever growing efficiency of farm production, in the decline of farm manpower needs, and the continuing push of farm population toward the cities. Similarly, clerical and manufacturing automation may contribute later on to the total mobile labor supply. It is possible, moreover, that our entire economy will be less fully employed in the Sixties than in the strained late Forties and the early Fifties.

When we look more closely at this whole process of economic maturity and change from the urban point of view, there emerge the outlines of other trends of a more specialized nature that may cause us to question, or at least review, our basic expansionist philosophy. There has, for example, been a veritable explosion in the size distribution of our standard metropolitan statistical areas. The following table prepared by the Bureau of the Census shows the dramatic character of that change over a relatively short period of twenty years.

Population in Groups of Standard Metropolitan Statistical Areas Classified According to Size 1940 to 1960

Area Size Range	Year		
	1960	1950	1940
3,000,000 or more	5	5	3
1,000,000 - 3,000,000	19	10	9
500,000 - 1,000,000	29	21	16
250,000 - 500,000	48	44	36
100,000 - 250,000	89	89	76
Under 100,000	22	43	72
Total Areas	212	212	212

Whereas this situation undoubtedly points toward a greater total urban market for goods and services, it also means more competition. The type of competition of significance in this discussion is that occurring among large cities for producers who are considering, or may be persuaded to consider, new locations. General improvements in transportation for both producer and consumer have placed markets higher in the scale of locational considerations. This seems true even for those activities which are quite strongly oriented toward raw materials. By way of qualification, however, it must be pointed out that certain types of large-scale producers like General Electric are leading what may be a trend toward very small communities with an adequate sub-regional labor force at hand. The reasons given for such moves involve not so much union influences and labor costs but more the need for an open, attractive environment.[3] This sort of environment is thought to contribute toward lower labor turnover, increased employee contentment, and higher productivity. Another broad trend of the present involves the increasingly dynamic nature of our economy in terms of rapidly changing tastes, the fluidity introduced by multiplying institutional devices, and the influence of advertising and technology on production and distribution systems. This state of affairs is undermining the urban economic *status quo*. A particular community can, therefore, be less confident of its future economic viability and of the automatic processes of the market which have contributed to its growth up to now. Finally, as urbanization develops to even higher levels in this country the question of public finance becomes more acute. The weak fiscal status of our larger cities is notorious. Industry is attractive to local government, therefore, as a means of obtaining more tax dollars, which come hard in the competitive struggle for revenue sources with state and federal government.

The line of argument which has been traced above leads to three general conclusions.

1. Metropolitan-scale markets are becoming more and more common. Hence the monopoly which a few such markets held in the early decades of this century is passing.

The smaller metropolitan areas, some increasing in size at very rapid rates, are employing aggressive policies of industry solicitation.

2. Very large scale manufacturers are beginning to try the advantages of smaller producing plant units in small communities. However, the general trend of growth is against the community of less than 40,000 except for those within the orbit of a larger central city.[4] Certainly not all small communities are going to be "saved" by large industry.
3. The pace of change in our economy is such that there is more uncertainty today at the city and metropolitan levels. For some communities this uncertainty is in terms of *quantity* of activity; for others it is a problem of the *kinds* of activity and their stability.[5] Uncertainty rooted in the modern trends of private enterprise and urbanization is compounded by the insecurities of public finance.

There emerges from these brief comments a mixed picture of urban economic effort directed at enlargement or improvement, staying even, or mere survival.

* * *

The general purpose of this chapter is to present in outline form local level reactions to the basic economic conditions which have been described in the foregoing pages. Emphasis will be placed on the rationale behind these reactions. The rationale itself will be subjected to critical review in Chapter 2.

Within the last decade or so the most common means by which American communities have tried to influence their destinies has been the industrial development corporation. As private or semi-public organizations they do not always act under such a title, but their objectives are generally the same. It is for this reason that the arguments of the present chapter are woven around the philosophy and methods of this organizational device.

Industrial Development Promotion

It is small wonder that in view of general economic and social tendencies within the country more and more cities have become interested in the state of their economy. This concern has been in sharp evidence since the end of World War II at both the city and state level.[6]

Aside from those general conditions which have brought about the creation of local industrial development corporations throughout the country, there are, of course, many special conditions affecting particular communities which have stimulated organized action. However, we are here concerned with the justifications given to support the existence of the general run of development corporations.

Promoted in most instances by chambers of commerce or other local business associations, the development corporation attempts by local nonprofit stock subscription to collect money for a variety of purposes. These purposes, no one of which is necessarily exclusive, range from advertising campaigns to attract industry, to land acquisition and factory building construction. As a general rule the idea and objectives of these corporations are received with enthusiasm by local government and are generally favored by the public at large.

There can be little doubt that the expansionist philosophy is one of the main justifications for these corporations in the minds of both businessmen and the general public. Specifically, more industry means more jobs. More industry means more income not only for job-holding families but also for local businesses making sales to the new or expanded industry. More jobs made available by new industry may well attract more population to the community. It is hoped by the promoters of such economic expansion that a cumulative trend may eventually be set in motion. Cumulative growth involves a situation in which industry attracts industry in snowball fashion. In like fashion, the presence of more and more industry acts as a magnet to labor force. A gradually accumulating labor pool in turn will attract more industry and so on.

Planning for the Community's Economic Needs

Another assumption which is implicit in the approach of the private development corporation to the problems of local economic expansion is that it, as an organization, is best fitted to the task. Our national economy functions under the private enterprise system. Therefore it is proper to suppose that community decisions in this sphere should be made by business as opposed to local government, organized labor, or citizen groups.[7] Furthermore, the local industrial development group is a forceful expression of local self determination as opposed to guidance by either a state or national chamber of commerce organization. Local self determination is, of course, an important part of our democratic philosophy. There is present, moreover, the undeniable assumption that guidance of the development organization by local businessmen is strengthened both by their experience in and knowledge of economic matters. On the basis of such knowledge those industries most appropriate to the community and most likely to give maximum stimulation to its economy can be selected.

One type of economic difficulty occasionally does occur which qualifies the above statements to some extent. In those cases where a small community loses its main industry, there may be more general involvement of the citizenry and its organized groups. However, even here businessmen will take the lead, closely followed in this instance by the head of local government. Industry selection will not be made with as great care as it should be because of the desperation of the situation.

Position of Industry in Local Economy

Concentration of the efforts of economic development agencies on encouragement of industry is justified from the standpoint of at least two broad based concepts. (These concepts are interpreted here on the assumption that the term "industry" is used, in the layman's sense, interchangeably with "manufacturing."[8])

Manufacturing is frequently an important part of the economic base of a community. The term "base" is here used in the sense of a community's export activities. The export activities of the locality are its "wage earners" in relation to the outside world. Activities which do not export goods or services, while of great importance to community economic welfare, do not bring in dollars from the outside. In a definite sense, therefore, activities predominantly involved in export activities support the community. As they rise or decline so moves the rest of the local economy. Another important aspect of this conception is in the multiplier effect of base employment. It is maintained, for example, that the addition of one base employee to the local labor force may result in the addition of as much as two or two and a half employees to the service or non-export category. While this ratio may be in the neighborhood of one to two, the ratio of base employment additions to *population* additions may reach one to six.

This set of economic relationships helps to explain the interest of prominent local merchants in industrial development activities. Clearly the multiplier effect can have two positive influences on retail business. On one hand an increase in base employment will mean an increase in community income and subsequently an increase in retail purchases. New stimulus may also derive from purchases made directly by the industry in its own right from local merchants. Admittedly many of these purchases might be at the wholesale level but still locally generated. Another and perhaps more significant source of business, at least in terms of volume, will come from the increase in service or non-export employment, which will tend to rise as a result of the multiplier effect.

One concluding observation on the appropriateness of manufacturing as a selection for local economic expansion concerns the question of wages. There is substantial evidence to show that many lines of manufacturing have weekly wage scales and annual employee earnings levels which are high when compared to clerical, retail, construction, and farm employee averages.

Tax Advantages

One of the more important reasons which prompts a community to add to its manufacturing base lies in the tax advantages resulting from such action. The broad lines of interest involved are reasoned as follows:

1. Business interests in the community wish to lower or stabilize their property tax expenditure because for localized, small scale business operations this expense may be a relatively large item.
2. The property tax, its size and stability, is a vital factor in the plans for property purchase and construction by real estate investors. It can be claimed with good reason that apartment and speculative commercial construction as well as land subdivision will be sharply stimulated by a more favorable tax situation.
3. The home owner of the community will, of course, also be responsive to an ameliorative tax program aimed at one of his principal housing expenses. It is doubtful, however, that an improvement in the property tax situation would help to stimulate home building in either the speculative or custom form because of the generous manner in which financing and monthly payments are handled at the present time.
4. Finally, local government itself at both the municipal and county levels has an interest in the tax advantages to be gained by the addition of new industry to the community. Much of this interest is, naturally, of a political nature. If tax rates can be stabilized, or by happy chance even lowered, the political strength and security of elected officials is thereby increased. As nearly everyone is aware by direct experience, the contention and public agitation accompanying an increase in the local tax rate is sometimes extreme. It is understandable, therefore, why this is a situation which is to be studiously avoided by the elected public official. This political attitude is, of course, combined in vary-

ing degrees with an unselfish desire on the official's part to operate the community efficiently, keeping costs down and the quantity and quality of services up.

The specific ways in which an addition to the manufacturing activity of a community helps the local tax situation deserve separate comment. No one of the points to be discussed can be covered in its entirety. However, the highlights of the economics involved will be touched upon.

1. *Increase in Assessed Valuation.* The most obvious tax advantage to be gained by an addition to industry is the increase in total assessed valuation for the community. This situation generally suggests to the layman and public official that the total costs of operating the community will be shared by as many more assessment dollars as may be added by the new plant. Hence, the burden on each assessment dollar in existence prior to the plant's arrival should be lightened.[9] Another important tax revenue advantage of the addition of manufacturing plants to a community lies in the personal property assessment. Most manufacturing plants have on their sites in varying quantities and values raw materials, semi-processed, and finished goods. These are classified as personal property and in a great many tax jurisdictions throughout this country may be inspected by the local assessor, valued, and subsequently taxed. The same procedure also applies to the more or less fixed mechanical equipment used by the manufacturer in his plant. In some instances the personal property value may be higher than that of the real estate represented by the plant structure and underlying land.

There can occur situations under legislation in some states where the community or a development corporation may retain title to the land and plant structure. This real estate is then leased to the manufacturer. The personal property tax would then be an even more important consideration, due to the fact that no tax would be collected by the community on the real estate. Rentals collected under a lease arrangement are sometimes only nominal and would not, therefore, always compensate for the real estate taxes forfeited.

2. *Increases in Other Revenues.* Although real estate and personal property assessments are the most likely to bring about an increase in total tax revenues upon the addition of manufacturing to a community, there are other revenue possibilities. The most prominent of these in terms of volume of potential revenue is the state corporate income tax. This tax does not exist in all states. However, in those states where it is levied a substantial proportion of the tax collected from a specific local corporation will be returned to the tax district or community in which the business is located. The relation of this type of arrangement to the general property tax burden question is perhaps obvious.

3. *"Tax Profit" Aspects of Manufacturing.* One of the most important arguments to be made for the introduction or expansion of manufacturing in an urban area concerns what may be termed the "tax profit" aspects of certain land uses. The argument in brief is that some land uses, like commercial and industrial activities, possess on a per property basis very high value. This high value is explainable to some extent by the presence of much personal property. However, partly because of their physical concentration in relation to this high value such uses do not require as high an output of municipal services per thousand dollars of valuation as other uses. Contrast, for example, the fire, police, street maintenance, school, utility and other costs associated with the servicing of an entire subdivision of fifty $20,000 ranch homes covering 25 acres with an equivalent value of $1,000,000 in a small, modern single story manufacturing plant on a five acre tract fronting a major arterial at the edge of town.

A dramatization of this situation is found in two types of suburbs, one the dormitory or residential community outside of a large city, the other a small industrial satellite. In the case of the dormitory suburb the tax base is almost exclusively residential. As this type of village grows and its public service demands, particularly for schools, begin to balloon, the property tax bills of the residents may rise to an inordinate degree.[10] This increase occurs because of the high unit cost of providing

public services to a small scale settlement and more particularly is attributable to a dispersed, relatively low unit value type of real estate which requires, in volume, such an expensive service as public schooling.

On the other hand observe the situation in the industrial suburb or satellite, which may have a single large factory within the boundaries of its rather small tax district. The chances are good that the property tax on its residences and even commercial uses may be minimal. In every sense of the word this is what we mean by the expression "tax colony."

What the average city is aiming at is a course somewhere between the two extremes cited. It is seeking what is sometimes called "tax balance." This means, actually, the balancing of low unit value high service cost uses, like the average residence, with high unit value low service cost uses like factories.[11]

4. *Multiplier Tax Effects.* Earlier mention was made of the multiplier effect which manufacturing of the export variety might have upon the economy of a city. This same multiplier effect will, of course, also express itself in the local tax structure. Briefly reviewed, the relationships would be these:

a. Export manufacturing, when added to a community economy, may stimulate non-exporting activities, like local retailing, to the extent of two new employees for every one added by manufacturing. Depending on the scale and duration of the expansion in manufacturing, construction of new establishments and additions to existing service establishments will take place. This will add more assessed value to the city tax base and, moreover, in a form which local government is seeking—high unit value, low service cost uses.[12]

b. A cumulative tendency may develop as a result of this first phase of the multiplier effect. New industry may attract more labor and, as the labor pool builds up, more industry will in turn be attracted. Even without the labor pool factor as a magnetic force, additional industries may decide to move into the community simply because the industry which expanded originally has reached a scale which makes local linkage de-

sirable. The influence of these potential developments on total manufacturing and mercantile assessed valuations are patent.

c. Purely from the point of view of tax revenue some of the bloom may be taken off this rather brilliant fiscal bouquet by the fact that a population increase will accompany industrial expansion. Although state personal income tax shares may be gained from this new population, the property taxes on the new homes and apartments constructed will not in most cases counter-balance the service costs. However, there may be some solace in the fact that the residences of upper and middle management will, because of their high unit value, show a small net gain for the city treasury when the computation of public service costs and revenues is made.

5. *Advantages of Industrial Tax Exemption.* In considering property tax exemption of new industry by a community we are concerned here not so much with the direct advantages of having industry as with one of the rather common means of obtaining it. Reference has been made earlier to the idea that a city may, as an inducement, offer a new industry property tax exemption on its building, land, or both. This exemption, or assessment freeze, may be a permanent arrangement or may expire after a few years at which time the industry would then pay full taxes. Permissive tax exemption legislation is in force at present in 14 states while 8 allow municipal bonding.

The significance of this technique of industry attraction is not always completely evident. Simply put, the objective is to stimulate the idea of making a move among those industries in which the property tax outlay is a very important item when viewed as a percentage of the total cost of doing business. It can be argued further that the property tax element of production cost is an item which at the present time in many areas is rising more rapidly than the general price level.

From a competitive point of view an industry with a property tax cost advantage might easily take business away from similar industries without the exemption operating in the region. This condition would, therefore, lead to subsequent expansion

of the plant in the community granting the exemption. There might then result a general employment increase in the locality.

While it may be felt by a few citizens that the taxes lost on a relatively valuable property such as this would be of considerable weight in the local tax total, the net effect may be worth the price. Furthermore, the "price" does not involve a cash outlay, only an exemption. Several situations other than a general employment increase tend to counter-balance the uncollected tax. For example, the personal property tax, if levied by the locality, would still be collected on the machinery and materials of the manufacturer.[13] Moreover, the multiplier effect is likely to produce additional assessed values far in excess of the exempted value. Cumulative attraction of yet other plants which will *not* be exempt may also occur.

In the event that the plant is owned by the locality as a result of municipal bond financing and is given rent free to the manufacturer, the conditions resulting would not differ substantially from those already described in connection with the real property tax exemption argument. If a nominal rent were collected, the community would profit to the extent of the rent *plus* the advantages already cited.

Holding the Community's Youth

In many of the smaller cities of the nation, particularly those of less than 50,000 population and even for some in the 100,000 to 200,000 categories, there exists the fear, often supported by fact, that a large proportion of young people upon graduation from high school will leave for the "big city." The reason for this move is said to be a lack of adequate employment opportunities in the home town.

A sense of moral obligation on the part of a community toward its youth is at the root of much of the activity which is carried on to offer them more local job opportunities. Briefly put, the idea is that the community has guided its youth through the early period of their development. In this period loyalties toward the home community have been fostered in many ways by private business and public officials. This sense of loyalty

should not be disillusioned by economic difficulties when the time comes for the young people to enter the job market on a full time basis and then to marry and raise a family. In this same connection it is also assumed that young people in general prefer to stay near their parents, families, and near other young persons with whom they have established close associations. There is, moreover, a strong desire on the part of many parents to keep their children near them in the same community.

Closely associated with this moral and social point of view is an economic argument which is frequently heard. The community has invested many thousands of dollars over the years in the education of a particular youth. It seems, therefore, to be an economic waste to have him leave the community and bring to some other city a background and possibly skills to which that city has not contributed a dollar. Is it, therefore, not desirable to protect what is actually a tremendous educational investment by holding as many of these youths as possible? Not only is it a question of keeping the investment but literally putting it to work in order to earn a return for the community.

Another highly evident point is that the outmovement of young persons is clearly a population loss. Any such loss is injurious to the community in a number of ways:

1. It reduces the labor pool of the locality. This condition might conceivably lead to an increase in wage levels. If wage levels rise workers of the community will, of course, gain a general but temporary advantage.
2. However, if wage levels are forced up some resident industries may be put in a precarious position. Those most endangered will be industries in which wages represent a heavy proportion of production cost. Any advance in price or cut in profits to cover cost may put some producers in a weak competitive position either in their selling or financing markets.
3. A combination of decline in labor force and rise in wage levels may act as a deterrent to the free or unsolicited entry of additional industry. Somewhat the

same argument can be made against the possibility of locally initiated activities.

4. The young people are the heads of the community's future families. If they leave in large numbers, who will keep the businesses of the city operating, how will the population be maintained?
5. Finally, young people moving from the locality will in a short time be entering their most productive years in the labor market. It might be concluded, therefore, that the force remaining in the community will accumulate a higher and higher average age. As this occurs productivity will begin to decline. Such an eventuality will also tend to weaken the competitive position of local industry.

A concluding general observation on this whole subject of youth and its loss by the community pertains to certain psychological implications. The impact of a trend of this type on local merchants and even manufacturers can work in none too subtle ways. Outmigration can be interpreted as a vote of " no confidence" in the community and its future, particularly where the outmigrants are young. This interpretation, while not outwardly expressed by anyone, can nonetheless result in a community sense of insecurity. Insecurity in turn will tend to make businessmen more cautious in their plans for expansion, remodelling, and modernization. The lack of such activity on the part of others will reinforce the conviction of insecurity on the part of individuals. This attitude then reaches full circle when youth observes that "the old home town is dead on its feet and should have been buried years ago." The criticism of youth, often quite justified, is aimed not only at the economic opportunity of the locality but also at the absence of cultural stimulation and variety. There is, of course, quite often a close correlation between the economic and the cultural. Sensitivity of local business leaders to these cultural deficiencies may compound their pessimism.

The injection of new economic activity may provide just the impetus necessary to fertilize the seeds of optimism among

all local businessmen and even carry over simultaneously into the development, or at least encouragement, of what further cultural expansion the city is capable. Thus a new community frame of mind in itself may convince youth that there is after all some dynamism in the town that their parents have created.

Another aspect of the basic problem which has been described in the preceding paragraphs is one associated with the rapid future expansion in the number of job seekers resulting from the high volume of births in the 1940's and 1950's. The local reaction to this anticipated flood in the labor market is along somewhat the same lines as those already emphasized but with a few variations.

For example, a particular community may conclude that on the basis of the sharp rise in the birth rate it can expect a population of 150,000 by 1970. Its present population (1962) is, let us say, 140,000. There are currently about 60,000 jobs in the community. By 1970 there must exist a total of about 70,000 jobs to take care of the expanded population. Therefore, immediate steps will have to be taken to begin filling the 10,000 job gap. If this is not done, the 10,000 job seekers will leave the community in search of work elsewhere.

Here again a question of moral responsibility is in evidence. Community leaders state that action must be taken to provide jobs because youthful job seekers expect it of them. The manager of a state employment office in a Midwestern city has been quoted to the effect that he didn't want to be in the position of having to face these young people in the next five to ten years and tell them that there were no jobs for them in the area.

Organized labor might have some justification for fearing this general situation if it were allowed to go uncontrolled. A heavy surplus of job applicants could quite easily undermine the level of wages in some job classifications and possibly even weaken the bargaining effectiveness of organized labor.

From yet another point of view local merchants have reason to be concerned about potential sales volume. Here are 10,000 potential regular customers who may remove their patronage from the locality forever.

Public officials may also have a serious problem to face in the event that the high rate of births does not continue. A heavy investment in school buildings will have been made to take care of the rising child population. If the surplus moves away, the community is then left with substantial excess plant.

There is also the strong possibility that a heavy and consistent outward movement of surplus youth may tend to cause other youths with local jobs to follow them. Pressures of social emulation and status are the motivating forces here.

The point should be reemphasized that nearly every urban community in the country has been affected by the sudden upswing in births. However, many small urban areas are also experiencing concurrent outmigration of youth due to what might be termed "economic obsolescence" or stagnation.

Selection of Industry

Some communities may be in a state of economic desperation because their industrial main-stay has either closed or moved away. In such cases almost any interested industry or industries of a size that might approximately fill the employment gap will be welcomed. However, most communities seeking industry via the industrial development corporation device are not in a state of panic. They can pick and choose what they feel to be those activities most appropriate to the community. Inasmuch as the usual interpretation of the term "industry" is "manufacturing," selection is aimed at those manufacturing activities that are "desirable." Most communities, although they may favor industry, feel that care must be taken in selection because some industrial operations are objectionable. It is undoubtedly true that, in general, as a community grows its feeling of opposition to heavy industry declines. There may even be a point at which nuisance industries will be welcomed. However, let us proceed on the assumption that we are concerned with the attitudes of communities of less than 200,000 population.

The most obvious basis of industry selection for small communities is that based on reactions of the senses such as sight, smell, and sound. If a manufacturing activity doesn't score well

on one or all of these points, or if it doesn't have the general reputation of scoring well, it is rejected or at least not encouraged in the promotional advertising of the community.

Objections to industry based on sight and sound may often be associated not so much with the industrial process itself as with the traffic, both highway and rail, that is generated by the plant. Sewer lines may, moreover, be overtaxed by the operations of some types of plants, such as meatpacking.

There is implicit in most arguments against heavy and nuisance industry the idea that they will attract "undesirable racial and nationalist" groups or persons of cultural standards lower than those in the community. This, of course, is a situation to be avoided since it may cause either an outmigration of some established residents or discourage entry of "higher class" industries that require labor forces of a different social background.

Closely tied to this line of argument is the matter of prestige. Many a city may feel that it does not wish to become known as a place which harbors certain types of "unclean industry." Although its wealth may not be impaired by their presence, its status will be.

From a purely economic point of view, the wage levels of differing varieties of industry may well be an issue in their selection. There is a general feeling that wage scales decline with the acceptability of the industry. Hence it is better to get a clean, high paying industry that will pump more purchasing power into the locality.

Union control can, of course, also be an issue in some situations. It may be felt, locally, that no industry should be selected which is so strongly unionized that wages and working conditions will be pushed to a level which may cause embarrassment for established resident industries of the city particularly if they are either non-unionized or weakly organized.

Local Control of Industry

One question which is somewhat at odds with the general philosophy and approach of the average industrial development

corporation involves local versus outside industry as the best cornerstone or building block for a local economy.

The industrial development corporation usually has two phases to its program. One phase favors the encouragement and expansion of existing local industry, the other stresses the introduction of new industry, usually an operating firm from outside the community. A refinement of the first phase frequently implies that if a choice is possible locally *owned* industry should be favored. Even in the second phase, if a choice is again possible, the initiation of new locally owned industry may be preferred over an outsider unless, of course, there is a substantial size difference in favor of the "foreigner."

The degree of dominance of this bias for local ownership and operation of industry tends to increase as the size of the city declines. This fact emphasizes one of the principal reasons for the bias, namely, security. Assume by way of example that the city in question has a population of 50,000 and that its leading industry, meatpacking, has 2,500 employees concentrated in one firm. If control of the firm rests in the hands of persons who live outside the community, and if the firm is one in a chain owned by the same corporation, there may well be elements of insecurity present. One possibilty is that the corporation may decide to close the local plant as only one link in its chain and reopen in a more favorable location. Or a decision may be made to eliminate certain specialties in the local operation, like sausage manufacture, transferring them to another of its plants. This would, of course, reduce the employment total at the local plant. Clearly it can be inferred from the line of reasoning followed thus far that if the "outside" firm is not one unit in a chain there may be less objection to it.

Another line of argument against the outside firm focuses on profits and purchases. Profits of the "foreign" firm will naturally go to stockholders who live in other communities. These profits will be expended or invested there rather than in the locality where they were created. Purchases of operating supplies which might be made locally may be arranged elsewhere through special large-scale outlets available to the outside firm

or dictated by absentee top management. Therefore, local merchants and manufacturers lose a portion of sales that might otherwise have been made if the firm had been a home owned corporation.

If the outside corporation is a large one and operates in conjunction with a strong union, as in the example cited, this may be considered an objectionable feature by business leaders of the locality. Union strike action might be aimed at all plants of the corporation, thus closing down the local unit for a long period. This might occur in spite of the fact that the local union membership would be opposed to such action. Influence of union wage levels and fringe benefits on other businesses in the city has been commented on already.

Although an outside firm tends to hire the greater part of its work force from the immediate area, this is less true of the higher salaried executive personnel. Moreover, loyalties of an executive force with few or no local roots will be directed toward the corporation. Therefore, in any discussions of locational change such ties play no stabilizing role. Unless the outside firm has a progressive public relations policy it will be disinclined to participate in joint local business organizations and their programs. Where, as in our example, the employment concentration of the firm is large, such non-participation may make some of the community's programs rather ineffectual.

Another assumption implicit in this dicussion is that the local firm will not have the shortcomings attributed to the outside firm. This certainty can't be true across the board in a large number of cases but there is, undoubtedly, a very strong bias in this direction.

Industrial Expansion and Reduction of Imports:

Most people are probably well aware that the city in which they live is somewhat like a nation in that it is not self-sufficient but lives by means of exchange with outside buyers and sellers. They may not be aware of the somewhat more involved arguments surrounding the concept of the economic base, but in a vague way they appreciate that the export producers are of

great importance to their community as earners of the net wages with which goods outside the boundaries of their little economy are purchased. Moreover, they are aware that their urban economy is much like their own family economy in that income must balance outgo, long term credit notwithstanding. There is often, at least in the mind of the man of the family, the desire to reduce outgo while either increasing or holding constant the income side of his accounts. Although he may consider such a move one of wisdom, economists have labeled the practice mercantilism when engaged in by a nation. Regardless of the labels involved it might be well for an urban community to consider the policy of import reduction. It must not be concluded that such a reduction will result in a decline in the standard of living as it might with a family. In fact, the consequences may well be an increase in the standard.

Now the question is how does a city go about import reduction, and what, more specifically, are the advantages of this policy? Unlike the case of the family, the community does not decide to tighten its belt nor, maybe, even work harder. But it may decide to reallocate the resources at its disposal. There are at least four ways in which this reallocation may be brought about under the guidance of a development corporation:

1. *Expansion of activities which serve only part of the needs of the community.* For example, in some small city there may be in operation a bread baking plant which serves the city and a restricted outlying area. The output of the plant is, however, inadequate to care for the total demand for bread within the community. As a consequence let us say that 50 per cent of the bread supply of the city is shipped in daily from another community. This means that if $10,000 is spent for bread each day in the city, $5,000 goes outside. If the capacity of the local plant is expanded to capture the rest of the market then the extra $5,000 per day will go into the pay envelopes of local employees, and the bank accounts of local utilities and suppliers. Some of it will also, of course, be used to purchase an increased volume of raw materials from outside the city. A net gain will, nonetheless, be enjoyed. The possibility also exists

that the citizens of the city may benefit from slightly lower prices and better service. There are those who argue that there might be expected from an increase in local plant operation greater continuity of supply and improved quality of product due to the immediacy of local pressure in the event of a falling off in quality. A study made in Cincinnati in 1945 showed ten prominent activities that had expansion potential of the type described. These industries included brick and hollow tile, enameled iron sanitary ware, house dresses, uniforms and aprons, household furniture and the like.[14]

2. *Development of industries that are not represented in the area.* The average industrial development group within a community may seek industries of a type that do not yet exist in the community for the sake of stimulating overall economic growth. It may not always be appreciated that new industry can, in part, be selected from the standpoint of impact on imports. Whereas almost any new industry will tend to reduce imports, some will have a more marked effect than others. In the earlier example of the bread baking plant, the case could be one in which *all* bread was imported. With the initiation of a plant in the city where none had existed before the market gain could jump from zero to the daily gross of $10,000. In either the first or the second case it might also be possible for the community to reduce its imports further in those situations where sales were made by the new or expanded local service industry to a local exporting industry. This is under the assumption, of course, that these sales replaced purchases which the exporting firm had at one time made outside the economic limits of the community.

3. *Development of industries that have both export and import effects.* So far the import-influencing example has been the typical one of a local non-exporting industry. It is possible to encourage an industry which will have a double effect, import-reducing and export-increasing. In this case the bread baking plant could be made to operate at a scale which might take care of local demand *plus* a substantial export market outside the usual trade area of the community. This economic

status of the bread producing firm might, actually, be a late or final stage in its evolution from a small beginning. Evolution could be stimulated by the helpful promotion of the local industrial development group.

4. *Promotion of local patronage by an exporting firm.* In some cities there will exist economic activities that produce a line of goods and services prepared specially for outside markets; as a consequence very little if anything is sold to local consumers. Reasons for the thinness of the local market may vary all the way from price and style to a simple disinclination on the part of the producer to promote the product or service locally. It is undoubtedly clear that addition of new price and style lines, as in ready-to-wear clothing, might not only help the overall sales of the exporter but also give the economic benefits of the shift to the import account of his home community.

These are some of the ways in which a city can give itself an economic lift via the bootstrap method. Extensive investigation will often be necessary before these potentials can be uncovered. Then heavy and effective promotional work is necessary before they can be realized.

* * *

This chapter has presented a few of the more commonly discussed topics of the day involving the economic development and future of the urban community in this country. Those arguments which have been presented are primarily from one point of view. In order to obtain a better balance of ideas and an improved perspective the discussion next turns to the qualifications, rebuttals, and restatements of arguments that have been put forward in the preceding pages. The intent is not in any sense to show that a particular attitude or line of reasoning is wrong. In some instances the objective is to show that there is another approach; in other cases a restatement may show that the common view is too strong and must be modified; and in other discussions the original position may come off the field with new strength. In any event if thought has been stimulated by friction, the even broader objective of the discourse has been achieved.

NOTES

1. According to present census procedure the population is classified in three categories: urban, non-farm, and farm. The non-farm category includes communities of less than 2,500 population and unincorporated suburban areas.
2. As *per capita* domestic real income rises there develop broader markets within the nation particularly under the dubious stimulus of induced demand. However, some of these markets are already under assault by foreign producers.
3. Labor costs are, however, a factor encouraging the dispersion to rural and small urban localities of mass production processes employing semi and unskilled labor.
4. There often occurs an unfortunate type of competition for industry between the central city of a metropolitan region and the outlying jurisdictions.
5. Note also the creation of the Office of Area Development within the U. S. Department of Commerce in 1956.
6. The regional areas which are most desperate in terms of economic need are the "stranded" mining districts of the Middle Atlantic States and rural areas of the South.
7. Such non-business groups are usually represented in these corporations but hold a minority position.
8. At the municipal level "industry" almost invariably means "manufacturing." At the state and federal levels it seems to assume its broader, generic meaning.
9. This line of argument necessarily assumes that service expenditures remain the same.
10. This statement has to be qualified in those cases where the village population is composed of high income families whose locally shared state income tax is substantial.
11. It can be seen from this argument why there is somewhat less enthusiasm on the part of local government officials for large scale state, federal, or educational installations which are tax exempt.
12. Retail uses will many times, because of the intensity of their demand for such services as police protection, trash and garbage collection, supplement public service with private contract services, thus taking some pressure off the public budget.
13. There are cases in which the personal property will also be exempt, but these are less frequent than the real estate exemption alone.
14. City Planning Commission of Cincinnati, *The Economy of the Cincinnati Metropolitan Area,* Cincinnati, Ohio, 1946, pp. 23-24.

2

Problems of Growth in the City Economies

Part II

In this concluding portion of the discussion on the city economies, the main arguments presented in Part I are re-examined. Subtitles are repeated in order to simplify comparison of points of view. However, ideas examined under each heading have not always been repeated from Part I. Sometimes a different set of ideas is the basis of approach to the subject.

Industrial Development Promotion

Promotion of industry by the community stems to a large extent from native American expansionist philosophy. To the extent that it is a phenomenon of the post World War II era it can be said to reflect inflationary optimism and a desire for large scale realization of "the good life." America's version of the good life is essentially a material one, supported more by an expansion of credit than of productivity. There is, moreover, a strong possibility that the desire of a locality for more economic activity is principally the desire to get a larger portion of the pie which is the good life and does not reflect economic need in the pressing sense of the word. Of no less importance are the influences of status and emulation. If all other communities are promoting industry, there must be something wrong with that city which is without such a program.

Another and even more familiar aspect of expansionist philosophy is found in the phrase "the bigger the better." Here

we observe a really prime example of our frontier background and pioneering attitudes, where pride and self preservation are related to size.

Rationalization of great size can, perhaps, be made more confidently from the standpoint of economic efficiency. It is maintained that as a city grows in size two critical types of operational economies begin to evolve. One of these is an economy of scale that can yield lower unit costs on the goods and services produced. The second advantage gained is that of external economies, such as extensive subcontracting, and the massing of reserves or hand to mouth purchase as demand varies.

We are, however, derelict in remembering that because we are maturing as a nation we should begin to look more critically at customs of conduct and attitudes that were appropriate to the environment of our recent youth. Can't we be dynamic and progressive, if these *are* our innate characteristics, without the boomtown, hoopla approach? Can't we begin to think in terms of quality in our community economies rather than being guided by the immature compulsion, an insecurity hangover, toward "more and more?" If we must worry about status let's begin to put the competition for it on a different basis which, we can hope, will be a better basis.

If it is size and more growth we want, let us keep in mind that this is not an unmixed blessing. There will be substantial costs and unpleasant consequences associated with expansion. The question is, are the consequences worth the quantitative gain? Here our native optimism may be a snare. We tend to look at the plus signs and minimize the minus factors, thus ending up with a highly unbalanced view of our economic future. Of course, the minus factors are not only unpleasant and unpopular to contemplate but often difficult to measure. They are nonetheless real and formidable.

What about the efficiencies that go with increased size? These are real enough. Therefore, aren't they worth pursuing? There is some evidence to show that such economies do not begin to appear to any marked degree until a metropolitan area

has a population of about a million. Once such economies appear they do not take on truly significant proportions until the area has reached nearly five million. If this is the case what are the chances of any one of the hundreds of urban communities in the country reaching such levels?

Diseconomies of scale have been discussed in theoretical terms for years, but only in recent decades have we begun to appreciate the implications of these diseconomies both for our cities and the industries in them. Some of the larger industrial giants have already begun to disperse geographically. The suburban trend of yet other industries is in part a reaction to excessive scale. But the most dramatic reaction is to the city itself and the fact that its size has become so great that it has begun to negate its own peculiar advantages not only as a place to work but, more importantly, as a place to live and as a human experience. The reaction to central urban size and density is, in turn, beginning to give us other problems of size, those of metropolitan sprawl and dispersion.

In view of the length of the road to be traveled before economies of size can be gained by a community in appreciable measure, and in view of the diseconomies of scale in route what are the alternatives? As economic opportunity and reward become more equalized throughout our country, locational pulls over people will increasingly begin to take non-economic forms. The essence of these non-economic forms will be the *quality* of communities as places in which to live, the quality of their cultural opportunities, which need not necessarily involve great range, the availability of open areas, the ease of movement within the community, the aesthetic effect of the city's layout, and the arrangement, style and even color of its buildings. This line of argument does not mean to suggest that the economic approach to community development should be entirely disregarded. Economics must be placed in proper balance and perspective with other community aspirations and needs which may be of equal or greater importance. Top priority in a program of economic development for the city whose population is under the half million mark should go to the encouragement

and stimulation of existing industries. *If* more industry is needed, and this question should be critically examined, then selection should be carefully made in terms of the character of the city, the nature of existing industry, and the consequences of the introduction of new activity.

Who Should Plan for Community's Economic Needs?

Substantial questions should be raised whenever planning for a community's economic needs is under discussion. The broader questions involve such issues as: Should the community's economy be planned at all? Is there a difference between planning and promotion? Whether the economy is planned or promoted, who should direct such activity? There are no clearcut answers to these questions, but careful consideration of them becomes more vital as our nation becomes more and more urbanized.

It seems reasonable to assume that as society becomes more urbanized it becomes more specialized in its parts and therefore more interdependent. Dislocations in the economy are, as a consequence, sure to be more generally experienced throughout the land. Although individual localities are helpless to control national and regional economic trends, they can develop economic warning systems and methods of forestalling the impact of economic declines and changes. Localities can inform themselves concerning trends in the comparative advantage position of their economic activities and then initiate proper compensatory programs to bring them into line with change. Change is increasing at a rapid rate as technological and institutional innovations multiply. So the answer to the initial question is a definite "yes." Community economies should be planned.

The next question is not so much an issue as it is a refinement of terminology. Are planning and promotion the same thing? Clearly, the words have distinct meanings, and as activities they are frequently linked. But in current practice there seems to be a very strong tendency in the average local industrial corporation group to emphasize the promotional side. Much, and no doubt in some cases, all, of the planning is focused

on how to promote more effectively. However, planning of the urban economy in the technical sense and as a distinct operation is the sort of thing which was very roughly outlined in the preceding paragraph. No doubt the execution of a plan or plans would need generous doses of promotional stimulant at both the community level and at the outside industry contact level. Nonetheless, there is no question as to which activity (promotion or planning) should come first and which should receive the deepest thought, background investigation, and preliminary sounding of public opinion.

The final question is in some respects the most important. Who should do the planning and promotion? If, as at present, the businessman dominates the councils of the industrial development groups, is this proper? Is it proper in terms of the general as well as the economic welfare of the community at large? Before seeking to answer these questions, consider some sociological facts. One important fact is the top social standing of the businessman in every American community. Because of his standing he is looked up to as an authority in many matters, some as far removed from the business world as modern art. Since this is true, can he not therefore be considered a pre-eminent authority where matters of community economics are involved? True, business is in some respects on the moral defensive at present, but how better can it show its goodwill than by leading community betterment programs? The answers to these subsidiary questions are not clearcut. However, there is an ominous cloud of doubt which hangs over any outright affirmation of these statements. The fact that businessmen are at the top of the social pyramid does not automatically qualify them to assume the same position in all other organizations and situations. The additional fact that their specialty is business does not necessarily qualify them to lead in the planning or even promotion of a community's economy. The job at hand is that of *community* economic planning. Individual businessmen are not trained for this work; it is the job of planning specialists and engineers under the guidance of the community's head planner, if there is one. The businessman has two impor-

tant roles to play, nonetheless, one as consultant in the development of economic plans, the other as a citizen member of a wide-based policy forming group for the community.

One other observation along these lines is appropriate. There appears to be an increasing tendency where technical programs and public welfare are concerned to dissociate the technician or professional from a key position in the formation of policy. For example, it is felt that research in outer space is a project on which policy should be performed by civilians rather than either the military or engineers. Similarly, there is a very real question as to whether doctors or their professional organizations should have key policy positions in the formation of the health program for a nation. Should professional police officers determine the outlines of policy and action for the control of crime and the improvement of moral conduct in a community, or do the issues and problems go deeper than their professional training will permit? Therefore, it can be argued that the position of the professional businessman is analagous where community economic planning is concerned. The presence of the professional in policy councils can be a very bad thing even where he is a minority of one. This is true because he will too often be deferred to as a person with specialized and therefore superior knowledge.

Pressure and special interest groups exist in most organizational structures. Industrial development corporations are no exception to this rule. Any individual serving in such a group will not be entirely altruistic in his motives. Businessman representation must, therefore, be looked at from this point of view. Historically, such representation has its roots in chambers of commerce, which are customarily merchant-dominated. The special interest of the merchant is clear enough when the workings of the economic multiplier reacting to additions to the base of the economy are recalled. Industrialist representation in the chamber of commerce may not have as direct an interest in additions to the economy as do the merchants because the multiplier may not affect their markets. However, the industrialist is concerned with another aspect of industry promotion.

He will undoubtedly be opposed to the introduction of any new industry which is competitive with his or puts additional pressure on productive factors, such as skilled labor, which are locally in short supply. Effects on the general wage level by new industry may touch both merchants and manufacturers but the latter particularly.

Organized labor will also have rather selective ideas when it comes to the making of decisions relative to new industry. It may, in general, encourage any wage competition that will push up the general level. It may not be worried over the direct product competition which a new industry might give to an existing local firm unless such competition could result in unemployment or a reduction in hours. Definite resistance would naturally be registered by labor against any new industry that was either non-union, company union, or hostile to the union in its organization. Similarly, objections would most certainly be raised against industrial processes that were dangerous and not sufficiently protected under state industrial regulations.

Other special interest areas that may be represented in the industrial promotion organization are local government, private welfare organizations, and broad based civic groups like the League of Women Voters. Local government is certain to be mainly concerned with the tax revenue aspects of new industry and its multiplier effects. The welfare and civic representation approach will vary with the peculiarities of membership in the particular community.

In view of the variety of attitudes that can be potentially involved in the promotion of local industry, an increasingly disturbing question develops concerning the general welfare. Who speaks for it? Do any of the groups described above represent it? Or do we proceed on the assumption that our governmental process operates by the compromise of issues among the representatives of special interest groups? This procedure appears to apply to public program organizations like the development corporation. If this is true we can't expect "democratic" results unless we have several groups of *equal* representation in such a body. At the present time representa-

tion is not equally distributed. Even if it were, the status level of certain groups, like business, would tend by their weighting effect to unbalance the trend of decision. There are two possible ways by which to redress this imbalance. One is by means of a citizen's planning council. The objective of groups of this kind is to act as critic, questioner, prodder, and aide to those organizations private or public which are engaged in the promotion of some venture which bears on the social, economic, political, and physical planning of the community. Its special interest is the general welfare, its protection and promotion. Inclusion of representatives from this type of group might very well tend to give the general welfare the voice which it has lacked for too long in development organizations. Another feasible organizational device is the public corporation or authority which is directly answerable to the local council or other legislative body. Such a body could be under the advisory direction of the local planning department, if one existed in the community. In the absence of a planner one should be hired or a consultant retained before an attempt is made to proceed with economic moves which are likely to have extensive repercussions throughout the community. Each of the two approaches has its drawbacks, and the objectionable potential features of political influence found in them would have to be given close consideration.

Position of Industry in the Local Economy

Industrial development corporations and even the informal discussions of communities contemplating economic expansion seem almost automatically to think in terms of manufacturing. It may easily be that in any one case manufacturing is the most appropriate addition to a local economy. But this is far from an automatic conclusion.

Manufacturing has traditionally been accepted as the leading expression of economic growth in this country. But like expansionist philosophy, it has been carried over into a period of economic maturing to which it is no longer completely appropriate. It is rather common knowledge that in a relative

sense the position of manufacturing has been declining while that of the service industries has been rising. A recent statement by Robinson Newcomb on this situation may make the point more effectively.

"In practically all industries, manufacturing has long since passed the handicraft stage. It has reached the point where the productivity of the machine is increasing faster than demand. The number of production workers in manufacturing has therefore been declining for several years . . . . Even if the FRB index were to rise by 4 per cent per year (it has been rising less than 2½ per cent per year) and even if the output per production worker were to rise only half as much per year between now and 1970 as it has in the last six years, there would be no net growth in employment of production workers in that interval.

"On the other hand, service industries are expanding. They have grown from roughly 14 million employees in 1919 to over 32 million now (1959), and the rate of growth has not been declining."

If these trends continue, the advisability of attracting manufacturing, at least for the purpose of augmenting employment, is not very great. It can be argued that automation will affect only the large plants. In these circumstances a very large number of smaller plants would be available for solicitation by small cities. But in any event there is a heavy shadow of doubt which extends over this sunny offshoot of the expansionist point of view.

If most communities continue to show an increasing interest in manufacturing, the outcome seems inevitable. The supply of manufacturing employment will fail to meet the demand. Communities will be forced to make more and more concessions. There may well come a time when the concessions will outweigh the advantages gained.

Not every community is fully aware of the influence of manufacturing on its life. If there is manufacturing already present the citizenry will have some conception of what this type of activity means. However, this may not be a proper indicator in the event that present industry is very small

scale or of a type drastically different from that which is sought. Questions relating to manufacturing that might well be raised for consideration by the average citizen include:

1. Will manufacturing bring a different kind of people into town?
2. Will the industry be the type in which female members of a family can be employed?
3. Is there any chance that industry will cause taxes to go up instead of down?
4. Will work be steady in the plant?
5. Will this town be as nice a place to live in with manufacturing here?

While these questions do not all touch the profounder influences of manufacturing on a community they do get at the worries of the common man. There is a substantial question as to whether these issues are considered in full or even in part by those who are planning industry for the city.

Another question which arises in this connection is that associated with economic balance. Some urban economists maintain that a city should do its best to build up a mixture of economic enterprises that will help the community avoid the pitfalls of overspecialization. In specific terms this means that the community should aim at:

(1) A selection of activities that will not be overly sensitive to cyclical fluctuations, as for example, machine tools.

(2) A combination of firms not too many of which experience sharp shifts in output and employment during the year.

(3) An economic pattern which does not have an overrepresentation of activities which from a national or regional point of view are either obsolescent or in the early and uncertain stages of pioneering growth.

(4) An adaptation of local firms to locational factors to such a degree that optimum advantage is being taken of nearly all such factors. For example, if climate, high mechanical skills, and unlimited fresh water supply are the strongest locational selling points of the com-

munity, are they being used to the maximum by the present industries?

(5) A sufficient *number* of firms in order that failure or cutback in any one firm will not represent a major economic reverse for the locality.

While some of these points go a bit beyond the central issue of balance they do raise a question concerning manufacturing. Can more and more manufacturing accomplish these ends? The answer seems to be, "only to a limited degree."

Those advocating the economic expansion of the community often forget the potentialities of activities other than manufacturing. In specific instances it may very well be that the natural advantages of location, cost of productive factors, and the nature of the population will rate only at a mediocre level for manufacturing purposes. Whereas if the same set of influences were applied to some other activity like research, tourism, office activity, government, retailing, education, or medical treatment, the rating would be much higher. Even though salary levels of some of these activities would be below those of manufacturing, the overall economic and non-economic effects on the locality might be much more favorable. However, this approach is rarely considered because of the bias toward manufacturing. The sad part of it is that excessive introduction of manufacturing could conceivably destroy the climate for later addition of other more profitable lines of activity like tourism.

Tax Advantages

The entire assumption that industry should be brought into a community in order to relieve its property tax burdens is open to serious question. Too often this is the most prominent reason offered for bringing in manufacturing, particularly when the main force behind the promotion is local government. Emphasis on tax savings tends to minimize the weight of other and more important reasons for or against industry importation. It is practically a "tail wagging the dog" situation.

What are the specifics concerning the unique advantages of manufacturing where the property tax is concerned? It is

argued that manufacturing has a high value for tax purposes as well as low public service costs. This is not unique with manufacturing. Large scale retail, office, hotel, wholesale, and professional complexes all show the same advantage, some to a greater, some to a lesser degree than manufacturing. These uses may, moreover, show much higher values per square foot of space. The personal property factor is of key importance. Department store inventories will, on a firm basis, register at very high levels of value. Actually, if it were not for a manufacturing plant's valuable equipment, raw materials, and goods in process, which are subject to personal property tax, manufacturing would be a tax deficit operation from a community point of view.

A similar argument can be made for the influence of the multiplier effect on community property tax burden alleviation. Here again manufacturing is not unique. Other economic activity types can exert an attraction for labor force and then for more economic activities, which will yield more tax dollars. It can also be argued that if manufacturing is promoted to the exclusion of other types of enterprise, there will be a falling off in the quality of the service or local activity types initiated in or brought into the city. If the quality of these service types falls too far additional manufacturing will be repelled rather than attracted, thus negating or weakening the multiplier effect.

It is often argued in favor of manufacturing that it, unlike certain large-scale non-manufacturing activities, will usually pay full property taxes while it is registering a proportionately low demand on public services. The implication here is that although colleges, universities, privately-owned museums and hospitals are desirable and definitely necessary, in some communities they do not pay property taxes. They may in some cases receive actual local cash subsidies. Therefore, it is said to be inadvisable to promote them from a general economic and, certainly, a property tax point of view. Looked at in strictly economic terms, non-taxpayers of the type described can be extremely valuable to a community. They are high among the amenity producing activities, which tend to attract large-scale goods and service producers to an area. The assumption on the

part of the enterprises attracted is that in an environment where amenities of this kind are found the labor force will be of higher quality and therefore more productive as well as more stable. An even more immediate economic effect of the presence of these uses will take the form of stimulated subsidiary enterprise. Subsidiary enterprise, as the term is used in this book, refers to those firms whose sales are made to customers who have been primarily attracted by other activities. A college or university of any size often attracts a major portion of its student body from an area outside the economic boundaries of the community. While the students are in attendance at school they will purchase many local goods and services. If the student body is sufficiently large, many firms will make a majority of sales to students. Such firms will include restaurants, drug stores, laundries, dry cleaners, rooming houses and apartments, book stores, clothing stores and the like. Similarly, in the case of hospitals a large volume of visitors and outpatients will tend to support restaurants, floral shops, medical equipment suppliers, and drug stores. The degree of subsidiary activity creation will, however, be less for the hospital than the college because of the length of tenure of the student and his degree of activity as compared to the patient and his visitors.

A number of non-manufacturing activities have, in fact, this economic virtue of pulling their customers to them. Manufacturers, on the other hand, deal at arm's length.

The essence of the argument up to this point is that non-manufacturing export activities of the kind described create additional tax values in *three* directions compared to two directions in the case of manufacturing. To recapitulate, the three directions referred to are:

(1) Stimulation of local non-export activities which service the community.

(2) Creation of a multiplier chain reaction involving attraction of labor, which attracts more economic activity which attracts more labor.

(3) Encouragement of activities subsidiary and closely tied to the main activity (college, hospital) which sell to the

customer as well as to the employees of the main activity.

The implications of these three effects for the total of local property tax assessment are too obvious to comment on at length. Nonetheless, it is too often argued with great heat by those who determine local economic policy that the revenue losses traceable to exemption from taxes of colleges and large hospitals more than counterbalance the property value and income effects which they generate.

As opposed to other non-manufacturing enterprises it is often maintained that universities within the city limits impose particularly heavy service demands on the community. This is, no doubt, true in many cases where fire protection, school, sewer, and boundary street maintenance costs are involved. However, steps have been taken in many university dominated communities to redress this imbalance. Payments in lieu of taxes have been arranged in some cases. In other instances sewer costs are billed to the institution, along with public school tuition for university personnel with families living on university owned property. Most campuses have their own police patrols. Fire protection and boundary street maintenance, however, are to date largely ignored by university authorities. Increasing attention, nonetheless, seems to be given to the community problem of student generated traffic. Prohibitions against driving on the campus or even student operation of an automobile are more frequently observed along with promotion of periphery parking and shuttle bus arrangements.

These problems of service cost for the university have been summarized in order to introduce the idea that manufacturing itself is by no means free of comparable drawbacks which increased taxes may or may not counterbalance. Much will, of course, depend upon the type of manufacturing involved and its location. Let us assume a rather average situation. It is certain that if the manufacturing plant is near the edge of town, the volume of automobile and truck traffic will be pretty much a function of employment and of the bulk, weight, and volume of the goods produced. What will this mean for the costs of guid-

ing cross town traffic? What about the costs of highway widening and double-lane construction in the neighborhood of the plant site? Will the traffic have any negative effects on commercial and residential values either near the plant site or in certain broad regions of traffic convergence in the city?

There will arise, from time to time and from area to area within a community, critical points when a substantial expansion of the sewer and water utility system will be required. Assume that the manufacturer is a meat or metal processor, who has heavy water and sewage requirements. If a plant of this variety is introduced into an area it may result in just enough more "demand" to push existing facilities past the critical point. This will possibly lead to a new pumping station, larger mains, a new well. A community bond issue may be necessary to finance the improvement. Existing utility rates and special assessments may or may not be adequate to meet this expense. If not, water and sewer rates for the community as a whole will rise.

If a new manufacturing plant induces a migration of workers and a general stimulation of population growth, as is usually hoped, school costs may also rise. Whether or not this will occur will depend on the amount of excess school plant available, on the amount of the child population increase, and on its location within the community. At any rate, if school plant and staff additions are required, they may well be the most expensive among the supplementary service costs incurred. Additional police expense in connection with the plant might be most likely to occur in connection with traffic control. Property inspection would be handled by the company's own watchmen. It is, of course, to be hoped that chronic labor disturbance would not be a factor influencing police action. Fire protection would be yet another public service cost to which some thought should be given. If industry were added to an existing industrial area of the city in which a few manufacturing plants already exist, no addition to the fire fighting force might be necessary. However, this, again, could be a marginal situation in which the addition of one more manufacturing plant might be sufficient to cause an increase in expenditures for more force and equipment. Or, con-

versely, the situation may be one in which the manufacturer is the first in an area. Fire fighting facilities provided for the adjoining small commercial and residential areas may be inadequate to serve them plus the plant. One other possibility should be given consideration. Some industrial installations, such as gasoline bulk plants, provide a special fire hazard. Although public fire protection may be adequate for nearly all other types of plant installations, this variance in the kind of plant involved could influence public costs. Finally, those groups who advocate industrial expansion should consider the chance of periodic increase in welfare expenditures. If the manufacturing plant or plants attracted to the city are the types that register wide cyclical swings in their production activity, then there will, of course, be a sympathetic response in the level of employment. The pressure of unemployment from the plants will bear heavily on the local welfare budget in the event that the average wage is rather low and alternative employment scant. In such circumstances few savings would have been accumulated by individual employees. Even with high wage levels many families may have committed themselves so heavily for installment purchases that their savings will be nil.

All of the extra public service expenditures just described may be incurred in varying volume by different communities and still be considered a proper part of the investment that has to be made to attract industry. However, the argument which is being made here is that very little thought is usually given to these potential costs, which may come not only as a surprise and disillusionment to the locality but as a financial burden which it may not easily be able to meet. What industrial promotion groups should do, therefore, is to calculate the total budget effects of new industry in terms of expenditures as well as revenues. If there is a net gain shown by this calculation, then the question should be asked: Is the net, including the long run effects, sufficiently large to warrant action?

There is one other service cost situation which, though rather rare in this country at the present time, is showing signs of increasing frequency. A city may, for example, be promoting

industry by means of a vigorous advertising campaign. Such campaigns cannot always pinpoint the economic virtues which exist within the municipal limits and must necessarily comment on water supply, labor characteristics, shipping rates and the like, which apply to the metropolitan area as a whole. Consequently, representatives for large manufacturing plant installations in making an exploratory inspection of the community may also look at the surrounding unincorporated areas and villages. They will undoubtedly give consideration to the lower property tax rates that may prevail in these areas. Blandishments and concessions by local officials in these outlying areas will undoubtedly have their effect on the touring representatives. Thus, in some cases the plant may be built in the metropolitan area but not in the municipality that originally attracted it. Although the central city in this case will lose the substantial property taxes on the plant and possible state corporate income tax rebates it will gain in other ways. Most of the multiplier effects which stimulate service business volume and employment would redound to the advantage of the central population concentration. The central city in this case might also avoid some of the substantial service costs that could arise in connection with the plant's arrival. Negative side effects have, however, developed in those situations where arrival of the plant in the outer metropolitan area has induced large scale inmigration of "outlanders" and minority groups with rural backgrounds attracted by wage scales far above their usual standard of earnings but still too low for adequate urban living. Constrained by their low income, minority status, and fear of a new urban environment they tend to cluster in the already overcrowded, deteriorated sections of the central city. In these circumstances many public service costs may begin to climb alarmingly in localized areas of the central city. Moreover, the presence and pressure of the inmigrants on surrounding neighborhoods will induce outward movement of the higher income elements of the population. Thus, the central community may begin to lose taxable property value and income as its costs are rising. Whether these costs will be balanced or exceeded by the economic gains alluded to earlier is not certain.

The consequences described are tied in most instances to specialized inmigrations, but this variety of movement is becoming more common over very broad areas of the United States and its related jurisdictions.

In concluding this section of the discussion on the tax advantages of additions to local industry, attention must be called to a few other qualifications to over optimism.

Competitive efforts to obtain industry for a community may take the form of municipal property tax concessions (the county tax can not usually be waived). If this is a desperation move such concessions may be justified, otherwise they represent a questionable public policy. Does a community want to have an industry that is either not willing or able to pay its proper share of community expense? An industry which responds to this sort of incentive is suspect in terms of its security and motives.

Initial tax concessions may be used as an entering wedge by the industry to obtain further concessions in the form of special public services. If the exemption from tax is not made permanent, the industry may threaten to move away. In short, the exempt or concession industry can introduce a very definite element of insecurity into the community. If the exemption is permanent, there may arise a substantial question concerning additions to plant. Are these to be free of property tax also? What if the plant triples in size? These are rather disturbing questions for the small community and for its local government. In cases of this sort some of the tax advantage has been consciously sacrificed, and risks have been taken for what is hoped will be a greater good. But, again, what is the *net* effect of such a policy?

An examination of three other questions concludes this area of comment. When the tax concession technique is employed as a competitive device among communities, can it not be turned against them by the industries concerned? The answer seems to be that it can when the pace of competition is sufficiently hot and the bargaining communities have relatively equal power when it comes to the making of concessions. When several cities are played off one against the other by a prospective industry,

the community which "wins" may, in effect, have lost. This will be so because of the fact that it will have gone much further in its granting of concessions than it originally planned. Thus, a community under competitive pressures might conceivably bargain down the net advantage from gaining an industry to a very thin edge. Cities in those states with a corporate income tax which border on states without such a tax may often feel at a competitive locational disadvantage where industry is concerned. They may conclude that in order to soften the burden of the income tax they should lighten the property tax on those industries which have a tendency to be mobile. However, much the same criticisms that have been aimed at other exemption or concession policies may be levied on this variation. To this battery of criticisms may be added another, namely, that for a heavy majority of industries the tax factor is only one in a long list of locational considerations and is usually far from the top of that list.

A final question must be raised concerning the morale of other firms in the community which are not receiving concessions. Retail and office concerns may not be annoyed by the favoritism. Representatives of this part of the local business world may well be the ones who promoted the idea of concessions in the first place. Resident manufacturers on the other hand, may feel that tax concessions should be extended to the old as well as the new. Manufacturers who contemplate moving into the city by their own volition might hesitate if their line is competitive with that of the favored industry and if the concessions enable freezeout price cutting.

Holding the Community's Youth

The debate on how a locality shall hold its youth has two parts. One is focused on the present, the other on the future. For the metropolitan centers the first problem, that of simply holding the youth they have, is not particularly pertinent. This is most frequently a worry of the smaller cities and villages of the country which may be losing population to the larger urban agglomerations. The second problem, that of providing for the

population boom, is difficult to assign by city type. It appears to have worried some of the smaller metropolitan centers and is, undoubtedly, an aggravation of the first problem with the smaller non-metropolitan urban communities.

Three questions may be raised relative to these problems:

(1) Do the problems actually exist?

(2) If the problems exist how serious are they?

(3) If the problems are serious, are they being approached in the proper manner?

Insofar as the first problem is concerned, that of current population loss, loss of youth, the answer is, as already indicated, "yes," in the case of the smaller cities and villages outside metropolitan areas or areas approaching metropolitan status. In some areas of the country such as New England, the Southeast and the West North Central States the situation can truthfully be said to be serious in many small urban centers. Other small cities in other regions which see their youth slipping away assume that they are in a situation similar to that of these deficit regions. The following remarks examine those conditions which tend to support or reject feelings of apprehension on the part of a particular city.

In a small city it is not difficult to note the fact that graduates of successive high school classes are less and less in evidence around town as the first three or four years following graduation slip by. Should this be a matter for alarm? Can't it be argued that this is a natural and perhaps welcome phenomenon? Youth should be seeking new environments and areas in which to assert its individuality unfettered by the many ties of childhood and frustrations of the early years of maturing. To say that all youth really wants is a good job and satisfaction with the environment will follow, is hardly a compliment. But isn't outmigration a symptom of something wrong? Maybe it is. For confirmation or refutation look to the community's population figures. If the community is growing, even though slowly, there need be no great economic concern for the loss of youth. If most of the increase is by inmigration, the community can be assured that it has attractions which act as a magnet, its

economy is strong. If the growth of the city is predominately by natural increase, this should prove that the loss of young people is not as great as feared at first and that the mortality rate is declining. Most communities do not, however, look to their net population flow data before concluding that what they need most is more industry to hold their young people.

If outmigration is heavy, is led by youth, and actually outbalances the gains, then what should be done? To repeat, the answer should not always be manufacturing. The pay may be good, but does the work have the variety, stimulation, and, possibly, security that youth so often seeks? The chances are that it will not; manufacturing probably leads the field in terms of monotony for the average operative. Hence the employment solution to the problem ought to take some other form.

No matter how good the economic opportunity in a community, it must increasingly be linked to both cultural outlets and a well-planned environment to be effective. A question can again be raised concerning the influence which heavy emphasis on manufactures may have over the possibilities of achieving an appropriate cultural and environmental setting. From a pessimistic point of view adequate investigation of the background of population loss may show that the community has become a hopeless locational backwash insofar as manufacturing or other large scale activities are concerned. In short it may be completely outcompeted. If this is the case realities should be faced. Money and effort should not be expended in a hopeless bootstrap effort, the admirable fighting qualities of the community leaders notwithstanding. It is better to scale activities down to the level of the new community character and to begin thinking in qualitative rather than quantitative terms. Here is the point at which the community can begin to think more seriously of sharpening its cultural equipment. Assuming the human raw material and incentive are present, the town can be a better living place than when it was larger. It can begin to assert its American individuality and inventiveness along lines other than the economic and mechanical. By so doing it will not only achieve the holding power which it originally

sought but also a community quality that would otherwise have been lacking.

Before going on to a discussion of the second broad problem of this section, some brief recognition should be given the argument which registers concern over the loss in educational investment placed in young persons who move from the community. At best this is a parochial view. What is the purpose of educating the young? Is the object to prepare them in making a start at mature living or is the idea that of bolstering the sentiments and economy of the locality? The first objective seems the more rational. Moreover, if the community is growing, is it not true that it gains families educated at the expense of other communities?

The second problem involving loss of youth from the community is an outgrowth of the boom in births which began following World War II. It can be expected with great certainty that this will result in a flood of young job seekers in almost every community after 1965. Community leaders are greatly worried therefore as to how jobs are to be found for these new workers. Issues of moral responsibility and economic development are the focal points of the controversy. If something isn't done, so the argument goes, these young people, or at least the surplus, will be lost to the community through outmigration.

How real is this problem? There seems to be no refutation for the population figures. Growth by natural increase of job seekers is, in varying degrees, a probability for nearly every city in the nation for the next decade or two. Action to meet this challenge is progressing along traditional lines. Manufacturing is being promoted more heavily than before. The industrial park idea is being fostered as one of the important tools that can be used in attracting and holding the industry that will provide employment for these young people.

There are, however, flaws in this line of reasoning which should be brought to the attention of community leaders. These flaws need not change the overall direction of promotion but may well alter its emphasis and intensity. One omission in

traditional thinking on this subject is an apparent disregard of what may be happening in the local economy at present. If local economic activity is declining in employment terms or is just holding its own, then there may be some cause for worry. However, the fact of the matter may well be that manufacturing is declining or stabilizing in the city while non-manufacturing activity, like tourism, is rising. Or the situation may actually be that all activity including manufacturing is rising employment-wise. It is difficult to see why this total local economic picture is ignored, but it is at present. If the local economy is expanding, how can additional stimulation be justified? It might be argued that expansion is not taking place *fast* enough to meet the job-demand boom when it hits. The locality is, for example, *now* adding a net of 300 jobs per year. When the boom hits the demand will start at 500 per year. But wouldn't we have to know before making a decision on a public line of action whether or not the current rate of job additions itself is increasing and by how much? Another position which might be used to justify employment stimulation in spite of current growth relates to job *availability*. It is argued that local economic growth may be strong, but even though the economic community expands from 10,000 jobs at present to 12,000 jobs in 1965, those jobs will all actually be filled *at* that time. There will, in effect, be no openings ready for the 500 eager job seekers who will come on to the market in that year. Isn't it naive to believe that what we need is an entire manufacturing plant or department of a larger plant standing vacant and ready, all tooled up, for these young and inexperienced hands who, incidentally, may or may not want that type of employment? Business, unless heavily subsidized, is simply not carried on in this manner. But what about the basic question? Will there be any jobs at hand if such a standby arrangement is not available? The answer is "yes" unless the community or region is in an employment decline at that particular time. In ordinary circumstances, as the employment total of the community rises, the potential of job openings goes up. To take a familiar example, isn't it true in most cases that the

community with an economic mainstay of 2,000 jobs in one plant offers greater economic opportunity than the community having a single plant with 200 jobs? This is simply a matter of turnover potential. Jobs are abandoned every week in the years for reasons ranging from child-birth and better employment opportunities to job dissatisfaction and death. The larger the job total of the community the larger the volume of openings created by this condition. This does not take into consideration the additional number of jobs which may be newly created by existing firms in any one year or by a firm just beginning operations in the locality.

Economic growth without promotional stimulation can be argued from another point of view. With population rising on an absolute basis in nearly every region of the nation, the demand for goods and services will also rise. This will express itself in at least two ways which are of importance to a local economy. A national or regional increase in demand can mean that those firms which export goods and services will enjoy a step-up in business to the extent that they will have to hire more employees. As the new and more numerous job seekers of the future are growing up in their home communities, they themselves will stimulate a larger and larger demand for locally created goods and services, thus stimulating the job potentials of hometown firms.

Two concluding points should be made relative to this problem. Moral responsibility to upcoming youth aside, there is a very real question as to whether or not the citizens of a locality want their community larger and, more importantly, of an economic composition which favors manufacturing. Perhaps the loss of surplus youth is a suitable price to pay for the preservation of other community values. Second, if economic considerations are admitted to be the crucial ones, should not some attention be given to the desirability of a greater total of real earnings per family? Increased real earnings per family are frequently a consequence of improvement in community environment quality. High salary and wage activities, how-

ever, may be repelled by the consequences to community quality that result from unrestrained and ill-advised policies of employment expanison.

Selection of Industry

For the smaller city and metropolitan area, selection of "desirable" industry is frequently equated with the selection of clean, non-nuisance activities. Whereas there is much to be said for this emphasis, there is another side to which thought should be given. Some heavy industries like metal processing present a double advantage to a community. The high wage scales paid by these producers should certainly be held as one important economic consideration. Moreover, those industries which run raw materials such as ore through the first reduction state have great powers of attraction for linked operations involving refinement of the metal and then its conversion into forms appropriate for the end consumer.

It may be argued against industries of this type that smoke, noise, odor, and glare are inseparable characteristics and hence make them unacceptable. This is an antiquated conception. Many technical advances have been made which substantially reduce or even eliminate these conditions. Similarly, it is often maintained that the appearance of the structures customarily employed by such firms are objectionable in architectural and land siting terms. However, here again modern design and structural placement have enabled industrial buildings in general to qualify as creations of beauty.

The assumption by a development corporation that "clean industry" is automatically the best for its community may be unwarranted. Careful consideration should be given to the question of whether the location, labor force, and transportation rates and facilities are appropriate to this type of industry. Many times clean industry, such as electronics manufacture, is the type which rents plant space. With no local ownership stake the mobility potential of the activity is much greater. Heavy industry, on the other hand, is invariably an owner in the locality with a very large investment not only in real estate

but also relatively immobile equipment. Hence, it may be said that heavy industry has not only greater locational stability than light industry but also probably contributes more property tax revenue.

Social considerations involved in the process of industry selection are highly controversial. If certain activities are excluded because minority racial or nationalist groups may be attracted, accusations against the community or development group of prejudice and bigotry probably will not in themselves be very effective in altering policy. A little educational effort in the right places may be enough to allay fear, which is one of the roots of prejudice. Emphasis on the wealth to be gained by the community may also prove an effective counter-argument. If, on the other hand, the community plans to compromise by ghettoizing its new citizenry, the results can be most costly in social and economic terms. In this connection the community must be sure that its housing supply is of the type and price to meet the special needs of the newcomers. If such provision is made, worker productivity will be high, social cost low. Finally, it must be kept in mind that the inmigration of minority group families may be exactly what the community needs to save it from deadly homogeneity, low vitality, and provincial self-satisfaction.

An associated basis for industry selection is that of unionization. A small city may feel that one of its strong locational attractions for all economic activity and manufacturing in particular is the fact that it is non-union. While this may be true, the advantage is usually a temporary one. In the meantime there is the chance that a selection system which leans heavily away from unionization may end up with a mixture of activities which may not otherwise be appropriate to the community. Moreover, industries which have moved once to avoid unions may move again when union organization campaigns begin to be successful in the locality. While local business concerns may understandably resist unions because of their influence over wages, hours, working conditions and fringe benefits, the general citizenry, including the unorganized, are sure to gain

substantially. This point carries us back to the question of representation on industry promotion groups and the allied question of whose interests are being most effectively promoted.

Local Control of Industry

Among the smaller cities there appears to be a tendency to insure community economic security by emphasizing local control of industry. By "control" is meant dominant stock ownership or pivotal stock voting rights that carry with them policy control of the company.

Arguments against outside control are weighty. However, there are counter-arguments which any community ought to examine before taking an adamant stand.

As a rule relative financial strength is definitely with the outside corporation, which we may assume for this argument has at least one or two other plants. It will probably have a superior credit standing and the ability to extend its total of capital stock without difficulty. This is a most important condition when thought is given to the expansion potential of a firm and its ability to survive under pressure.

Financial strength will, moreover, make it possible for the firm to take advantage of the latest technological devices that relate to its clerical and physical production processes. This ability will, moreover, when applied to the development of market and product research, strengthen the competitive position of the firm.

Local ownership in many cases means a highly personalized variety of control. While this may produce good results in some instances, the firm is overly dependent on the ideas and moods of one or two individuals. With the larger firm, control is more professionalized and more stable over the years.

While it is true that profits may be taken out of the community by the non-local firm, this loss must be compared to the advantages of employment, payroll, and stability which are gained. It may, moreover, be a part of the outside corporation's policy to plow back a portion of profits into its plants.

Insofar as union activity is concerned, there is no evidence

to show that the home town plant has greater powers of resistance to union entry or greater ability at bargaining than the larger outside corporation. In fact, there is more reason to believe that the larger more geographically diversified firms have the greater power in this direction.

Centralized purchasing and office operation by the large out-of-town corporation will undoubtedly divert minor goods purchases and some professional service employment from the locality. However, this practice can be said to buttress the firm's competitive position by virtue of the lower operating costs traceable to these items. This fact, in the long run, should rank higher in importance to the locality than the incidental trade and employment lost. Moreover, as a locally owned firm becomes larger and more cost conscious, it is likely to cut down its own local purchases in favor of those more economically priced which are available from out of town.

Finally, although it will many times be true that executive positions will be filled by personnel brought in from out of town, this cannot be counted a loss to the community. These executives represent an addition to the labor force and will, no doubt, spend a large proportion of their high earnings in the immediate locality.

Industrial Expansion and Reduction of Imports

Probably ever since the beginning of exchange in money terms there has been a strong tendency for peoples and nations to strive toward a favorable balance of trade with their neighbors. In part this has been a question of debt and morality. But in larger part an unfavorable balance of trade has been a sign of economic backwardness or of an early state of economic development. Before World War I the United States was a debtor nation. The war put it into the creditor status which it has held ever since. An early and extreme form of effort to establish a favorable trade balance was prosecuted by the government of England in the eighteenth century under the name of mercantilism. Mercantilism attempted to stimulate the flow of gold into the nation by expanding exports to the limit

and cutting imports drastically. Clearly this was more than a program of self-sufficiency. Cities have pursued portions of this philosophy for many years. There are even those who feel that urban economic base theory with its emphasis on exports is no more than a citified version of mercantilism. Although an incorrect interpretation of the theory, promotional groups may so distort its implications that a variation of mercantilism may well be the result.

At present it is rather generally agreed among economists and politicians that mercantilism is a fallacious policy for nations. This is no less true for the interrelated economies of cities. The basic criticisms of the policy are well known. In effect they point out that: (1) a philosophy of "beggar-thy-neighbor" is involved, hardly the proper policy among the *cities* of a nation. (2) Reduction of imports will usually be taken out of the consumer sector of the economy, thus leading to a lower standard of living. (3) Development of domestic industry aimed at import reduction can lead to comparative inefficiency of production and higher prices for local consumer and even producer goods.

For the average city economy these criticisms, made from the national point of view, have serious implications. Would it not be true, for example, that if a shoe factory were absent from a community there might be ample reason for this absence? Although shoes could be manufactured in the town they are, in actuality, manufactured under conditions of maximum efficiency in some other community. Therefore, why take the price penalty of less efficient local manufacture? Naturally, if the gap in efficiency and therefore in price were very wide between the local and out-of-city factory the chances are good that the local product might be purchased only infrequently by the natives since no customs duties would be present to protect the local producer.

The entire economy is moving toward greater local specialization. This applies particularly to the smaller cities and only to a slightly lesser degree to the very large metropolitan areas.

The point here is merely that efforts expended toward im-

port reduction seem to be running against a very strong economic current of directly opposite character. The commonly heard plea for greater economic diversity within urban communities for the sake of increased stability seems to be an even more frequently encountered example of policies which run counter to the trend toward specialization.

A more specific objection to the import reduction approach is the fact that each community has but a limited supply of productive factors. Labor force is likely to be the most critical in the majority of cases. The artificial expansion of industries supplying the immediate locality may occur at the expense of the export sector of the city's economy. The degree of pressure on the total local labor supply will depend on the skills involved and the wages offered. If wages are pushed too high, both the local and export industries may be put at a competitive price disadvantage in their respective markets. However, the general labor market of the community may gain, at least in the short run, from the rise in wages.

One obvious difficulty with import reduction, particularly in the smaller cities, is the fact that local activities which might expand their production to care for local needs more fully could, conceivably, be very numerous. In order to bring about any very appreciable cut in the outflow of consumer dollars all, or a considerable proportion, of these industries would have to step up production to full local market capacity. The public promotional and organizational problem of plugging so many import leaks would be truly formidable.

Among the more obvious drawbacks to import control is the situation which develops around the introduction of a completely new industry. When a community decides to fill such a gap, there develop all the traditional problems of financing, determination of scale of the market, location of interested management and the like. No one of these is automatically provided for in every situation. Expansion of a particular style line or an adjustment in price policy to meet local demand conditions would be a very difficult change to arrange with some long established large-scale local export industry. Such a change

would have to be made with the entire market of the firm in mind. Hence we must conclude that import control as a broad program is simply antiquated economics; as a part of a larger program of local economic guidance it has severe operational limitations.

3

The Central Business District

Every urban community has a central business district. In all of these, except for the smallest cities, profound changes are occurring with increasing rapidity. To most persons these changes are disturbing. Merchants are worried over the prospects of business and the threats of shopping center competition. Local government officials are concerned about the possible erosion of an important segment of the property tax base. Investors in downtown real estate contemplate declining returns. Citizens witness what to them may be the community "show piece" being altered in ways which are clear enough in their physical aspects but completely baffling in terms of the future, of economic impacts, and of vague community pride.

Although the ills of the central business district have been increasing since the large-scale arrival of the automobile in the Twenties, they apparently entered a stage of crisis in the period following World War II. The entire situation has become controversial because of a general lack of agreement on questions of whether the CBD is ill or not, what the nature of the illness (if any) is, and what the proper treatment should be. Unfortunately even the experts are in disagreement. Note the statement which appears in a leading city planning text in this country.

"While everyone is familiar with the traffic congestion, shortage of automobile parking space, decline in mass transit service, and the generally drab appearance of downtown areas, there seems to be no agreement on the effects these shortcomings will have on the ultimate prosperity of the central business district. Although every one agrees that problems exist, authorities dis-

agree on the nature of downtown's problems and the best methods of solving them. . . . An extreme handicap in dealing effectively with the problems of downtown areas has been lack of data on present and past conditions in the area, inadequate methods for evaluating available data, and lack of coordination among various efforts for studying and solving central business district problems."[1]

For the average individual who approaches this area of debate for the first time a substantial question may exist concerning the importance of the CBD in the community. The section which follows will, therefore, be devoted to a brief descriptive review of those conditions which highlight the economic and psychological position of the typical CBD in the average city.

Importance of CBD to the Community

Some understanding of the significance of the CBD in any community may be gained by a brief review of its most important functions.

1. *Business Functions.* Those activities which involve what may loosely be defined as "business" constitute the functions most frequently called to mind when the CBD is under discussion. This area of the city usually claims a greater volume of *retail sales* than any other single area of the community. It is in connection with this subfunction, moreover, that much of the current controversy has arisen.

Almost without exception the *financial center* of the city is located in the CBD. Here are situated the largest banks, business counselors, loan companies, credit rating agencies, and the offices of security brokers. In the metropolis of great size organized security exchanges appear here. Insurance firms are still found predominantly in the central area.

Administrative services also concentrate most heavily in the central area. Office buildings are the principal structural expression of these services. Here will be found the offices of national, state, and local governmental units as well as the central offices of corporations and the quarters of voluntary

organizations such as business associations, welfare groups, and labor organizations.

Professional services and *specialist skills* are among those activities which are strongly office oriented in the CBD. The professional services include heavy concentrations in the medical, legal, engineering, and architectural lines. Specialists skills strongly attracted to the city's center embrace artists, interpreters, contractors, public accountants, appraisers, advertising agents and agencies.

Wholesale and storage operations, which usually appear at the fringe of the CBD, play an important role not only because of their connections with other business uses of the CBD but also because they serve the region of which the city at large is only a part.

Light manufacturing activities, many of small scale, also inhabit the fringes of the CBD. Although there has been, apparently, substantial outmigration of some types of manufacturing to the city's periphery, other varieties, such as New York's garment industry and budding electronics industry, cling to the center. In larger cities the CBD and its fringe uses tend to act as a very necessary sheltering incubator for those manufacturing activities which are just making a start.[2]

2. *Cultural and Communication Functions.* Cultural and communication business activities are heavily concentrated at our city centers. Among these are the central offices and studios of radio and television broadcasters. Major newspaper offices and production plants are situated in the district, along with the offices of book and magazine publishers in cities of very great size. Art and science museums, theaters, central libraries and concert halls are similarly clustered near the city's core. In many cities large university night school divisions and public vocational schools will be found at the edges of the central district.

3. *Commercial Recreation.* In the CBD is usually situated the greatest concentration of fine restaurants and cafés. The cocktail lounges of the community's finer hotels, which are found in greatest number in the CBD, also provide a com-

munity recreational function. Concentrations of movie houses and the community's surviving legitimate theaters complete the principal recreational offerings of the district.

4. *Governmental Functions.* Aside from the great volume of office space rented in private business structures, the heavy concentration of government activities in special structures within the CBD is self evident. Here are located the central activities of city and county. In state capitals the capitol building will frequently be in the central area, surrounded by its administrative offices. Federal court and post office operations will be clustered in this district along with other special agency buildings in the larger cities.

5. *Residential Function.* The central district remains the focal point for hotel and even much motel operation because of its proximity to administrative, business, and government offices and to convention halls. In combination with their predominant transient, wedding, and convention trade the hotels also care for a number of permanent residents. At intervals around the CBD periphery clusters of multi-story apartment buildings appear, housing those whose day to day interests are closely associated with the city's core. Communications workers and retired persons are prominent among the occupants of these structures.

6. *Transport Function.* It is, likewise, an important fact that the central district is the hub of the city's transportation and transit system. The CBD is frequently the "loop" or the turn-around and transfer point for the city's transit system. The major arterials of the community center here. It is to the area's disadvantage that this concentration of arterials may also make it the passageway for heavy through traffic. In the central district will be found nearly all the principal rail and bus terminals with attendant travel and ticket offices (including air) dispersed through the area. In the larger cities heliports are a part of the CBD transport complex.

Aside from the impressive concentration of specialized functions of the CBD which have been described thus far, there are other ways in which to express the significance and

nature of this district. Let us now look at some of these other perspectives.

1. *Cyclic life.* Gerald Breese, in his study of the Chicago central business area,[3] has given us a dramatic picture of the heart beat of a great city. He leaves little doubt in our minds that the CBD is a giant economic pump. In Chicago he found a small segment of the city (the core), less than a square mile in area, which had a *resident* population (1946) of slightly over 6,000. It attracted over 600,000 to a million persons daily, then, at night-fall, emptied itself of this day time population. A second, entertainment cycle in the evening hours was of far smaller proportions.

2. *Tourist attraction.* Insofar as the tourist is concerned the city's central area can be said to play a dual role. Some cities have activities within their central portions which have magnetic powers in their own right for tourists. These may include historic buildings, parks, notable museums, outstanding theatrical attractions, and famous eating places. Even if the community lacks any conspicuous central area attraction, nearly all travelers are drawn to the district. This magnetism may be partly functional in terms of immediate needs that must be filled, but a more likely reason is the fact that the area typifies the community in the tourist's mind. Frequently a native of the city will think along similar lines. If he wants to show off the town to a visitor, he often decides that the fine clusters of tall buildings and dense traffic are most likely to impress.

3. *Tax weight.* In the eyes of local government, both city and county, the CBD is literally the "goose that lays golden eggs." Requiring a minimum of public services for its predominantly non-residential real estate, it produces a flood of tax dollars to public coffers. A study made of the CBD of Dallas, Texas revealed that in 1955 real property taxes collected from the area totaled $5.5 million. This was 22 per cent of all *real property* taxes collected in the City of Dallas and the Dallas Independent School District.[4] Similarly in Madison, Wisconsin it was found that over 17 per cent of that city's real property taxes had their source in the CBD.[5] In those states where the

personal property tax is levied the CBD is a good producer because of its large stocks of merchandise and valuable business equipment. State corporate income taxes levied on the heavy concentration of downtown businesses represents an important part of the taxes returned by the state to the locality. Where municipal sales and transaction taxes are in force, the CBD accounts for the greatest single concentration of transactions on which these types of taxes are levied. Indirectly, salaries paid by the many employers of the area are the source of payment for real estate taxes on homes and the payment of state personal income taxes that are locally shared.

4. *General economic weight.* Another means of underlining the economic importance of the CBD is by reference to its invariably high employment volume. In those cities which are of a strong commercial character the proportion of total community employment found in the central area is impressive; while in cities which are dominated by manufacturing the proportion will be somewhat lower. By way of example, in Madison, Wisconsin, which is a governmental, educational, and manufacturing community, the downtown employment total in 1950 was over 13,500. This was about 30 per cent of the employment total of the community at that time. Within the large labor market area of Dallas, Texas, the CBD share was an impressive 34 per cent in 1956.

Characteristically, a great many of the enterprises of the core area are exporting operations. In short they tend to bring money into the community and have, therefore, a vital multiplier effect on the rest of the local economy.

5. *Intangible values.* It is evident to most observers that, on the average, the general site of the central business area constitutes the location of the city's beginnings. In many cases the present CBD, rigidly defined, has moved somewhat away from this point, but in most American cities the shift has not been great. The meaning of this phenomenon for the present discussion centers on the influence of tradition. Business and public institutions at the center have gathered to themselves the benefits of an aura of custom and prestige which have

developed over the years. The impetus imparted by this status and by long years of operation confer a strength that is hard to duplicate elsewhere in the community.

The central area perpetuates another tradition which has been handed down through centuries of city development and growth. Not only has the core been a traditional market place, but more significantly it has been the community forum. Its function as a forum derives from the idea that any community needs a central point for exchange of ideas, opinions, local news, and gossip. The neighborhood shopping district or center is the microcosm of this idea. But a series of such neighborhood centers do not serve the same purpose for the community at large. The central district as forum is not only the parade ground for ideas but for fashion and the younger representatives of the sexes. More elemental demonstrations of these latter forms of conduct can be most clearly observed in the downtowns of smaller cities. A physical proof of the need for face to face communication and exchange of news and ideas in the business world is dramatically portrayed in the boom of office building construction, which, though fairly general throughout the nation, is most strikingly observable in New York.

It may be concluded, therefore, that the central business district is of major importance to the community. The city at large has multiple roots in the area. It is reasonable to assume that whatever affects the health of this district will have repercussions throughout the urban structure. It is perhaps unfortunate that the word "business" receives the main emphasis in all references to the area. Many other functions and influences which are not of a strictly business nature clearly have equal weight. Semantics becomes, therefore, a matter of importance when analysis of the area, its trends, and future are under consideration.

Evidences and Sources of Trouble

Before we can decide whether or not a problem actually exists in the CBD, it is obviously necessary to know the basis

for the present alarm. Once we know what the difficulties are, we can place them in proper perspective by looking at the plus factors and striking some sort of subjective balance. What then are the facts?

1. *Trend of Retailing.* It is appropriate to begin this description of the difficulties of the CBD with comment on retailing, because this seems to be the commonest picture called to the layman's mind when the subject is mentioned. Moreover, there seems little doubt that something is happening in this highly important segment of the central area's economic make up. Not all of these happenings are favorable.

Some disturbing facts involving the retailing activities of the CBD emerged from a study of thirteen central cities and metropolitan areas in this country. Between the years of 1948 and 1954 the dollar share of retail trade claimed by the *central cities* out of total metropolitan area sales declined by 10 per cent. However, the retail trade share of the *central business districts* declined by a disturbing 25 per cent. In 7 of the 13 central business districts included in the tabulation there was an *absolute* as well as a relative decline. This situation is all the more remarkable because in that period national retail sales were growing at a very high rate.[6]

This same study goes on to explain some of the background for the decline in retail activity in the central district. The observation is made that populations in the oldest portions of the central city have tended to grow more slowly than in the city or metropolitan area as a whole. In some central area neighborhoods there have actually been a decline in absolute numbers. The manner in which this situation would bear on CBD retail activity is clear. The comparative decline in the family incomes of central area neighborhoods is an attendant fact of great importance. This condition has come about as a result of the outmovement of middle income families, accompanied by the inmovements of low income groups. Another way of expressing this same idea is found in statistics from the Chicago area over the identical time period of 1948-1954. During this span of years disposable income in the City of Chicago

increased by 12 per cent. The increase within Cook County, but outside of Chicago, was 50 per cent. In that portion of the metropolitan area outside of Cook County the disposable income increase was an impressive 72 per cent. Another condition which has contributed to the attrition of the retail eminence of the CBD has been the relatively slow rate of growth of the number of jobs of all kinds in the central city. Finally, the almost universal preference of the shopper for the private automobile instead of mass transit facilities has further complicated the process of central area retailing.[7]

A number of other miscellaneous but important considerations tend to offer partial explanations for the troubles of the retailing sphere of the central area.

(a) *Diverse ownership* of retail frontage has been a factor which has inhibited modernization of structures both inside and out. Downtown merchant associations may ask for cooperation and develop hortatory improvement campaigns, but there is always a lack of singlemindedness which is so vital to success. As will be emphasized later, many of the merchants are lessees and the owners absentee. This situation reduces still further the chances of concerted action. Diverse financial abilities accompany the diverse reactions of owners and lessees toward the idea of a common front on improvement matters. The reality and significance of this situation is highlighted by the case of the modern shopping center. Here there is single ownership control. Maintenance, alteration, general parking policy, and lease rates are under centralized control. Even tax assessments may be protested on a more organized and forceful basis. Of course, it almost goes without saying that the shopping centers have the great beginning advantage of determining the overall design of their business area and the most efficient arrangement of merchants within it.

(b) A situation closely associated with and growing out of diverse ownership is that of *broken frontages.* One of the theoretical strong points of retailing in the CBD is the potential for comparison shopping over a broad range not only of merchandise but also of personal and professional services. Con-

venience of movement by the shopper from point to point in the comparison process is of almost equal importance with the comparison potential itself. Some sections of almost any CBD have conspicuous breaks in the solid fronts of shops and offices which impair this convenience. The significance of these breaks did not become fully apparent until the arrival of the shopping center with its almost unbroken frontages. Even where breaks occurred in the shopping center phalanx, the transitions were pleasingly executed with attractive walls, pedestrian passage ways, and bridges. Those fractures which have proved most injurious to the efficiency of the central retail district include heavily trafficked intersections, multiple alley entrances, dispersal caused by county court house squares, and by uses inappropriate to the main retail district, such as churches with extensive frontages, banks, and some types of hotels.

(c) *Lack of progressiveness* on the part of many downtown merchants has undoubtedly played its part in the decline. This rather elusive fault seems to be reflected not only in the outside appearance of the stores but more dramatically in interior décor, lighting, showcase styling, and the manner in which stocks are displayed. A tendency toward overstuffing the sales floor with merchandise is one example of failure in marketing technique, as is the avoidance of modern self-service practices. An apparent weakness in personnel management is all too clearly reflected in the attitudes of downtown sales persons. Surliness or insulting indifference to the customer rarely has a favorable effect on trade. Conversely shopping center sales forces seem on the average to exhibit a warmer and more cooperative manner.

Where critical customer parking problems are involved, there also is frequently a lack of progressive cooperation among the merchants of the central area. For example, it is often difficult for retail operators to establish a uniform or effective policy that will regulate employee parking so that it will not interfere with customer parking. It is, moreover, difficult for them to work out plans for consolidated private parking areas of good size that would serve their customers much more effectively than

a series of small, cramped areas with difficult entries that are slightly closer to the individual stores which have developed them.

2. *Traffic, Parking, and Transit.* The prime locational advantage of the central business district has always been its accessibility. This means very simply that the CBD is geographically near the center of the community and is the focal point of the main lines of movement in the city. The area is easier to reach for a majority of the population than any other established district. This fact has made possible another unique characteristic of the core, namely, availability. Availability, using a retail trade example, means a wide range of goods and great variety within each category of that range. This condition can be economically possible only with a large volume market, which the core position of the CBD amply provides. If accessibility of a high order is the semi-monopoly of the CBD, anything which tends to impair accessibility will undermine the profits of that monopoly. It must be kept in mind, of course, that other functions of the CBD with something for sale, as, for example, the professional services, also lean heavily on the accessibility factor as do large scale non-business employers who think of accessibility more in terms of the labor market.

The conditions which have begun to impair accessibility are all too familiar. Automobile ownership has reached alarming heights in most American cities. By way of example, more than 80 per cent of all Chicago families own one or more automobiles, while in smaller communities ownership is frequently close to universal. This situation has resulted in at least three conditions which impair accessibility to the central area. One of these is the fact that as automobile operation increases streets become over-taxed, resulting in a cumulative slowing of traffic. Accessibility is thus reduced in terms of time, dollar expense, and driver (not to mention pedestrian) irritation. Moreover, one of the objectives for which the vehicle was purchased, convenience, is defeated where central area contacts are concerned. Another aspect of this dilemma which is of equal familiarity involves parking. Without adequate, cheap, easily

available parking, accessibility can also be weakened. It is for this reason that downtown merchants are constantly promoting the improvement of this facility as the solution of their ills. However, provision of parking space in large volume can be a two faced proposition. Removal of structures to create parking lots also removes taxable values. Moreover, there is the chance that the structures removed housed activities which were part of the range and variety toward which the accessibility was aimed in the first place.

Public transit in the form of busses or street cars becomes a victim of the general slow-down engendered by the increase in the number of automobiles. The presence of the larger transit vehicles on the major access arteries constitutes another impediment to the free flow of the private cars. At any rate, the delayed schedules of the public carriers result in customer frustrations which lead to even more automobile operation and thus to further impairment of central area accessibility. One might conclude that the solution to all this, in at least the large cities, would be promotion of more subway and elevated travel. However, the omens have not been good as indicated by the removal of the elevated system in New York and its rapid demise in Chicago.

As a city grows in both area and population, the pressure of traffic on the central area increases. Therefore, the long range outlook is not encouraging. Greater accessibility of the modern shopping center has been a common explanation of central area decline in retailing, at least for goods and services to which a high convenience rating is given by the customer. Shopping centers have, of course, been the product of not only the difficulties of central area accessibility but also of the technological revolution which has freed consumers from centrally focused lines of public transit. The convenience emphasis has another facet in the appearance of the standard brand. This is well stated by a specialist in the field of retail location who points out that:

"Before World War I, many products were highly individualized, and comparative shopping could take place only in the

downtown 'bazaar.' But in the early 1920's the tremendous growth of the mass production assembly line industries was paralleled by an even greater growth in the mass communication media—magazines, movies, newspapers, and radio. Advertising changed from something written by the boss's wife to big business. The result was the 'standard brand.' One market after another began to be dominated by a few mass-produced and nationally advertised items. As these were usually priced the same wherever sold, consumers' buying habits became increasingly affected by the element of convenience. Merchants began to leap-frog each other to get in between the customers' homes and the traditional market place. There grew up in many cities a number of outlying shopping districts that were like little downtowns."[8]

3. *Physical Deterioration and Appearance.* One of the more reliable indicators of a problem area within the city structure is that of decline in physical structure condition. This is a common characteristic of residential slums, of commercial-residential skid-rows, of developments surrounding rail switching yards, and of subdivisions arrested in early stages of growth. Is the CBD an area like one of these? The facts relating to this question seem fairly consistent, although the range of their variation is wide.

Because the central business area is likely to contain some of the oldest structures in the city, it is not surprising that deterioration is conspicuous in many cases. Although many old buildings may be modernized, much of this sort of activity is confined to ground floor space and fronts. Space above the first floor in all but regular office and some loft buildings, is in a cut-throat market. With the exception of increasingly rare industrial loft use, the upper story space is aimed at the office market. Construction of one modern office building in a downtown area may offer impossibly strong competition to such marginal space. Even though the older space may carry a substantially lower price per square foot, it is highly obsolescent in terms of window systems, plumbing facilities, partition flexibility, heating, elevator service, and the like. Corrections of

these defects can be made only at a cost which is out of the question for the average building owner. As a result, dirty cobweb-draped upper story windows may be the uninspiring detail of the central area facade. From a psychological point of view this is hardly the type of condition which inspires confidence in the district or imbues it with beauty or *élan*. Ground floor vacancies are usually considered to be the most tragic because these, from a building investment point of view, are the big rent payers and are also likely to be an important part of the retail district. Whether or not vacancies of this type are appearing with greater frequency is hard to say in the absence of good statistical reporting. But there is little doubt that we are much more sensitive to and aware of such conditions today than ever before.

Although not an integral part of the CBD, the housing hinterland immediately surrounding it is closely associated with the central district. The most impervious observer cannot help but notice the decrepit nature of this residential ring which is the multiheadache of most large cities. In the context of this particular argument the hinterland is of significance because it represents the neighborhood to which many a central area worker must look as "home." What does this mean to central area firms who must rely on large numbers of employees who can't afford suburban commuting but who are sensitive to the adverse living conditions near the center? Going back for a moment to the idea of accessibility, it is important to observe that a part of this concept relates to the quality or kind of surroundings through which the traveler passes to reach his destination. Women shoppers and women employees, in particular, find many a central shopping area less attractive because the residential approaches are not only visually distasteful but also socially unsafe. Even more objectionable is the anxiety which arises when CBD periphery parking becomes necessary in such areas.

Looking for a moment at the causes for central area physical deterioration, some adverse credit certainly can be laid at the

door of the absentee owner. The term "absentee" as used here implies an owner who is not a direct user of any space in the building and who is not a resident of the community. Central area properties in such ownership are customarily placed in the hands of an attorney or a property management firm. As time passes, the ownership of these properties becomes more diverse as more members of a family begin to participate in an estate and draw money from it. Because of this diversity no single member of the ownership group is likely to have an investment share of great size. And as a consequence of this fact interest in the property, other than as a steady money earner, is almost non-existent. If a group of absentee owners is approached with a proposal for improvement of their building, the response is likely to be negative. It is, moreover, very difficult to obtain investment opinions from numerous heirs, who may be, literally, spread over the face of the map. Many of them may be advanced in years and hence resistant to proposals of change. They do not wish to take risks or to sacrifice some of their returns to create larger returns. As stated, they are usually content with what may be a lower but a steady return. Consequently, the absentee ownership pattern of a particular CBD can be an important element in its pattern of difficulties.

From the standpoint of aesthetics the average central area lacks much in the beauty which, increasingly, is felt to be necessary to shopping areas and to areas which combine functions of the civic center and forum with those of the market place. Seemingly minor factors can contribute to the unsightliness and clutter that hinder more enthusiastic use of the area. One of the greatest offenders is what has been termed "street furniture." These "furnishings" include street signs, route markers, police and fire call boxes, hydrants, trash receptacles, sand containers, lamp posts, traffic light standards, and so on. The problem involved with such furniture centers around its disorganized grouping, its color contrasts, its frequently ugly shape and its sheer multiplicity. The impact of this mélange of shapes on the frequenter of the district may be quite unconscious but will, nonetheless, be a disturbing factor to him. While

the central area should properly be a stimulating one, this is stimulation of the wrong variety.

Another category of décor which keeps the average American CBD permanently out of the class of the Champs Élysées of Paris or the ancient Roman Forum is the garish and vulgar exhibition of sign advertising art. Efforts to emulate the Great White Way are as poor business policy as they are poor art when applied to a modern central district. However, the sign lobbies are strong, the rental fees atop major buildings attractive, and the public interest disorganized. The signs become larger, more numerous, more mobile, more offensive. A skyline sideshow is the result.

Landscaping may not be missed in the American central business district because it has never been considered appropriate by those in control. In the mind of the average merchant or office building operator, and perhaps the city street maintenance department, a tree is a threat to private enterprise, grass is for the suburbs, shrubs and flowers are best if they are artificial and make up part of a window display in the spring months. Trees obscure display windows and signs identifying the business establishment. Furthermore, limbs may fall, injuring paying customers. Grass and shrubs may take sidewalk area, thus reducing the ease of customer flow past and (it is hoped) into the merchants' domain. A concrete, glass, steel, and asphalt world has been equated with efficiency in business. No regard is given by the central area building investor to the pedestrian's fate in the face of the cold blasts of winter and the glare of summer heat—unless the reasoning is that the best and most profitable escape is inside. Little concern has been shown for central area charm and restfulness as it might be expressed in landscaping. Perhaps the thought is that such pastoral decor will reduce the stimulation which is a prime attractive force of the CBD. But there is evidence that stimulation may not be properly interpreted by the owners and lessees of the central district. Shopping centers of large scale appear to have integrated the aesthetic aspects of building, walk area, and land-

scape design to good advantage. Let the central area competitor take notice and beware!

Before bringing to a close these comments on central area appearance and general aesthetics, an observation on noise and smoke is in order. As pointed out earlier, expansion of the city may well mean a cumulative increase in the volume of traffic at the center, though at a declining rate per thousand population. In the process of this accumulation the intensity of traffic noise becomes not only greater but almost constant during the workday hours. Noise in the modern day has been one of the fringe factors which has helped sour even the semi-sensitive individual toward the idea of any prolonged visit into the vortex of this din, the central area. Aside from its contribution to ordinary traffic noise, the automobile has become the dramatic instrument of frustrated individual emotional release as expressed in horn blowing, motor racing, and tire scorching. As though this were not enough to squelch the patron of the CBD, the hundreds of thousands of tons of hydrocarbons released into the air of the district each day represent an additional annoyance. We are now told that this situation may represent one of the major generators of lung cancer.

One type of noise is, nonetheless, conspicuous by its absence from the CBD. Where are the din and chatter of the donkey engine and riveting hammers? New construction seems to be the exception in most core areas. It is major news in many a town if construction is begun on an office structure. The headlines may scream the fact that this is the first happening of its kind since the Twenties. Demolitions, usually for parking space, have far outnumbered new building ventures in most cities. Where building is taking place it frequently is less intensive than the space it replaces. One and two story structures are succeeding taller though not fully utilized buildings.

4. *Values and Property Tax Burden.* Isolated studies show that the value of the CBD in relation to total community values has been declining in recent years. A survey of assessed value of land and improvements in Flint, Michigan between 1930 and 1951 indicated that whereas the CBD claimed 15.6 percent of

the total valuation of the city in 1930 the proportion declined to 10 percent in 1951.[9] Hoyt in his classic study of Chicago which emphasized *land* values only found similar tendencies over a ninety year period (1836-1926). However, Hoyt's data showed cyclical advances and declines in this ratio. The CBD proportion of total value fell under the effects of dispersive forces, such as the horse-car lines, steam railroads, and parks. Its proportionate share of land value rose once more with the centralizing influence of elevated lines, skyscrapers, and large scale department stores.[10]

It is alleged that the central business area has been singled out as fair game by property tax assessors with the result that CBD properties are carrying assessments far out of line with those in the rest of the city and with their income earning power. This situation results in part from the comparative ease with which downtown property can be reassessed. There can be little doubt that this is one of the factors which has discouraged both extensive remodeling and new construction in the area and shifted activity to the more lightly assessed periphery. It is believed that in some cases the voting power of the periphery residential areas in which the shopping centers are situated has tended to keep their assessments disproportionately low.[11] In Boston's Tremont Street, a quality shopping district, property can be bought for half its present assessed valuation. Boston's Planning Board has emphasized that city government depends almost exclusively on the CBD to make up the deficits incurred by other areas of the community.[12] In this city, the pressure of high taxes has forced complete abandonment of some central properties to the tax collector.[13] Quite naturally, inefficient or corrupt government can further aggravate a situation of this sort in any community.

5. *Decline of Specific Land Use Types.* There has been taking place since the 1920's a shift of wholesaling and distribution from the center of the city to the periphery. Use of the automobile has been one of the principal accelerators of this type of change. In more specific terms it may be said that wholesalers and distributors have been weaned away from rail connections and rail junction points by the truck. In a functional

sense it appears true that the optimum point of operation for this type of business moves outward from the center as the city grows and the proportion of the market outside of the center increases. Central area traffic congestion stimulates such a a centrifugal movement. Within recent decades goods handling has been undergoing revolutionary changes. Palletizing of goods and the use of fork-lift trucks and drag lines have been the principal forces creating the demand for horizontal warehousing space with wide bays and high ceilings.[14] Structures with these requirements are simply not found in central areas. Costs of land for their construction would be far too great.

Manufacturing, at one time very closely associated with the edges of the central business area, has likewise followed the trend to the suburbs. In common with wholesaling, manufacturing is usually a handler of bulky goods and has also taken advantage of truck transport in both obtaining its raw materials and distributing its finished goods. Like wholesaling, manufacturing began to demand a new type of structure. The one story structure was better suited to assembly line procedures. Suburban locations for factories provided, moreover, vital room for expansion which might be seriously impeded at the center by the cost of assembling additional land parcels and by tight zoning restrictions. In a few cases such nuisance operations as slaughtering and chemical processing were literally forced out of the central area. Another situation which has made the center less of the unique locational attraction it at one time had been for manufacturers is the dispersion of "external economies." Increasingly, economies of this type including a wide range of repair services, special power facilities and transportation services were found over wider areas of the metropolitan district. Admittedly, the pull of external economies has been of major significance only in the larger cities. Centrifugal pull has, however, been exerted from yet another quarter on certain types of large city manufacturers. A number of plants which wished to avoid the heavy investment that goes into building ownership were renters of the multi-story loft buildings so often found in downtown areas. The presence of these buildings, available

on a rental basis, has been, up until recently, a central area attraction of no mean importance. However, development of industrial park type subdivisions and the increasing availability of rental space in large, speculatively built suburban factory structures substantially weakened the bargaining position of the central areas in the industrial space rental market. The low rentals available in the periphery have completely halted the erection of new loft buildings.[15] There is no doubt that property tax considerations have played their part in the outward movement of plants. The push of rising taxes at the center as well as the pull of lower taxes, occasionally enhanced by subsidies at the periphery, have given further impetus to plant dispersion. A vital aspect of the congestion problem which has placed the center at a further disadvantage has been employee parking. More and more employees are driving to their work. Street parking is only a partial solution to the problem and may actually create a problem in that it slows the distribution movement of the plant's own goods. Difficulties with parking may hinder the ability of the plant to obtain and hold employees. But most important is the fact that costliness of central area property makes the development of private parking lots for employees prohibitive. Finally, the problem of adequate space for loading and unloading operations in connection with the manufacturing process has become a dilemma that seems to find its best solution in the more spacious periphery.

Offices represent a final major land use type of the CBD which seems to be undergoing change. There is the modern example of doctor's subdivisions in outlying sectors of the city, made up of a series of single or double office structures on separate parcels, occupied by many physicians and dentists who once occupied quarters at the very heart of the downtown district. An inspection of community and regional shopping centers will similarly show increasing use of office space by lawyers, accountants, and real estate firms. These business operations have all moved to the edge of the expanding city following dispersing population outward from the center. Some of the most striking instances of office suburbanization occur in

the insurance company field. Widespread outward movement of *branch* offices has taken place in the large cities. *Home* offices have tended to stay in the CBD, in part tied to the area by heavy building investment that can't be liquidated. In smaller cities, where regional offices may be involved, both the clerical operations characteristic of the branch and the higher level administrative operations have been combined in a large-scale suburban location. The reasons for this locational trend are not hard to identify. Like manufacturing and its mass assembly line activity, this part of the business world is involved in the mass handling of records. Introduction of electronic data processing (EDP) has begun to show insurance companies the possibilities of handling large volume repetitive operations in a more efficient manner in cheaper space away from downtown. Many of these firms are still held to the center in large cities by their demand for a large clerical force. However, as EDP is perfected and adapted more perfectly to handling office form data the outmovement of insurance offices will be further accelerated.[16] Insurance companies employ young girls in large numbers. This is felt to be another strategic fact affecting location. Some major insurance companies believe the amenities of a suburban office situation represent a great attraction for these young women.[17] There may be some doubt, however, concerning the effectiveness of these amenities in counterbalancing the off-hours shopping advantages offered by the CBD. However, the downtown problem of finding a place to lunch without an irritating wait is one of increasing seriousness. The fight through living walls of pedestrians in the large metropolis certainly calls into question the desirability of off-hours shopping. As commuting distances to the center lengthen for clerical employees and as mass transit facilities continue to deteriorate, a very substantial question may be raised as to whether or not the CBD is the most efficient location within the metropolitan area at which to congregate the higher grade of office force.[18] Finally, the outward movement of manufacturing plants has, in many instances, meant the simultaneous outward movement of what are called "attached offices." These are the offices which are closely associated with the

manufacturing process. Frequently, they are found in separate structures close to the plant. In such cases not only plant but office building abandonment is involved as the result of outmovement. "Detached" central administrative offices of the firm tend to stay in the core area.

With these remarks we conclude our review of the weaknesses of the central business area. Some of the conditions described are obviously critical whereas others are of a more superficial nature. On the other hand a collection of superficial difficulties can by their combined weight spell trouble. They must not, therefore, be disregarded.

Up to this point there seems to exist fair certainty on two general points, one, the great importance of the CBD to the community, the other, the presence of difficulties of considerable seriousness. The section which follows will focus on a more optimistic approach to the subject, namely, those trends of the CBD which indicate a more favorable prognosis. If contradictions between the two views appear, as they will, the explanation lies mainly with inadequacy of facts, failure to take a broad perspective of what is happening, or simply a difference of opinion as to what the facts mean.

Evidences of Strength in the Central Business District

When the troubles of the CBD are being aired, the argument is often made by way of reassurance that, while the city as an organism is eternally dynamic, the central "heart" area is tough and resilient. This core has great powers of adaptation and survival. Reference has already been made in this chapter to the fact that ancient capitals of the world and more mature though relatively new cities of this country have witnessed recurring crises of land use, value, and condition in their centers. The general rule over the years has been one of adjustment to change, not always uniformly effective but far from the virtual oblivion with grass grown streets that has been predicted by some present day Cassandras. We have, over the years, seen the central area respond to gun powder, the horse car and railroad, home ownership finance schemes, and other dispersive

forces. Is there any reason to believe that the automobile, shopping center, change in urban social composition, and attendant explosive factors of today will not be similarly absorbed, so to speak, and digested by the urban body without a substantial reduction in or disappearance of its core area? It may be true that the present forces assailing the status quo of the core are both more numerous and powerful than those of any previous time. However, may it not also be true that the CBD is better able to meet the challenge of adaptation? One may argue that time is on the side of the central area. The older it becomes the stronger it grows in a social sense. At least one writer of note is of this opinion when he says:

" . . . this City (the CBD), of all the Cities (urban areas) in distress, seems least in danger. It is showered with attention, and the likelihood is that no expense will be spared to save it. Its defenders are legion, though somewhat oddly diverse . . . I sometimes wonder why we ever worried that this City might be deserted. There are too many interests involved and the value of the city's heartland is too great for that area to be permanently forsaken. If it is deserted, it will be because of a surfeit of attention; too many superhighways driven into the heart of downtown, suffocating rather than reviving the patient; and a diet of investment expenditures so rich that the community around succumbs in the effort to support it."[19]

So much for introductory generalizations. What about other views and specific criticisms?

1. *Retail trade activity.* The U. S. Census of Retail Business provides evidence that the percentage of retail business transacted in the CBD tends to vary inversely with the population size of the central city. To give just the start and the end of the range of data presented, the Census showed that in cities up to 50,000 population 80 per cent of retail sales are made downtown; in cities up to 2,500,000 the downtown share falls to 25 percent, the balance, of course, going to the suburbs. Although "downtown" is a term rather loosely used by the Census in that it covers the central city, the essence of the idea is still valid. It is reasonable to expect that as any community grows, the

center will become more and more remote from the edges of urban settlement. As this occurs dispersed shopping areas must of necessity spring up to serve community convenience. With further urban expansion there is further growth of retail convenience outlets until the volume of such outlets may eventually exceed the retail volume of the CBD. However, one need not conclude that it is, therefore, mathematically inevitable that retail activity in the central area will disappear. This is primarily a matter of changing percentage shares. Retail activity at the core is actually growing in many lines in *absolute* terms. At the other extreme there are urban communities of such small size that the volume of sales *outside* the central district may in fact be close to zero.

One commentator on the CBD retail trade question points out that: "Downtown facilities may increasingly serve specialized needs, and servicing of more frequent and common needs may be in process of transfer to peripheral areas . . . up to a third of the shopping in the downtown area is done by persons already there as a result of employment."[20] One might logically add to the "captive employees" of the central area the transients, tourists, and persons in attendance at conventions as supplementary patrons of considerable importance in some cities.

The substance of these ideas is expanded by Richard L. Nelson, who points out the familiar shift of our central city economies from their original manufacturing orientation to one of commerce. Nelson claims that as this shift in the urban economy accelerates, the downtown areas of our largest cities will be the ones most dramatically affected. The heavy concentration of trade, finance, and administration is found here. This means an increase in downtown working population. Nelson goes on to say that the retail function will also change to accommodate this trend. The CBD will play a lesser and lesser role as the mass buying district for the community. Downtown stores will focus on three types of customers: (1) the downtown workers, (2) occupants of a growing number of the close-to-downtown apartment buildings, and (3) the regional shoppers who come to the city on the average of once a year. By way of example he

points to the increase in "fractional" stores aimed at working population convenience, i.e. glove stores, stocking stores, brassiere stores, and the like. "One of a kind" specialty shops are appearing in even greater number in the higher income retail areas of New York.[21]

Relative to the controversy over shopping centers and their influence over downtown, Nelson makes another important observation. He says, in effect, that new shopping centers are feeding off new population *and* the older shopping districts between the city's center and its periphery. The central shopping district in larger cities is very little affected by these new centers. A conspicuous exception to this statement exists in the example of the inroads made by the giant Northland Center on Detroit's downtown trade.[22] The downtown districts which are suffering most from shopping center competition are those in middle size cities of 25,000 to 250,000 population. The shopping centers rising in the outlying areas of these cities do not have independent access to a prime trading area as does the downtown district. Consequently, they are placed in such a way that they intercept trade area customers on their way toward the center. The volume of this intercepted trade may approach 50 per cent in many cases. Naturally, when the outlying center includes a department store, competition with the center is even sharper. Central business district stores in cities of the middle size class which have suffered most from the new competition include clothing, hardline, and department stores. Convenience goods stores in these communities have not been greatly affected. This is because convenience outlets were already abandoning close-in locations at the time of arrival of the shopping centers.[23]

For small towns, of less than 10,000 population, the decline in the core retail center has been rapid. Functioning as rural trading centers in a majority of cases, they have suffered from the increasing accessibility of shopping facilities in larger neighboring cities. Antiquated stores centered around the traditional courthouse square have not been able to hold their own even against the competition of a few new and larger stores located at the edge of the square area which offer parking. In the small

communities which make up the metropolitan suburbs a similar trend has been in process. Here, however, the main cause of established retail area decline has been the creation of major shopping centers in the unincorporated areas between suburbs.[24]

The conditions just discussed represent average trends. It should not be concluded, therefore, that the central retail areas of all cities over 250,000 have little to worry about and that the black fate of all those under that level has been sealed.

An intensive study of retail land use trends in a small midwestern city, Madison, Wisconsin (126,000 population in 1960), reveals that changes in the core of that community, while they are occurring with comparative rapidity, are not causing it to weaken.[25] One important hypothesis of the study is that shopping goods outlets catering to women are the bellwether retail types of the CBD. This opinion is based on the observation that such store types are able to pay the highest rents. Hence they may be used as an index of central area economic health, at least in the retail sphere. The secret of the strength of these outlets is traceable to three situations. (1) They serve the entire community. (2) They sell goods which require the greatest comparison. (3) The range and variety of goods is at a maximum in this area of the city (the core) as expressed not only in number of outlets but also in terms of the completeness of many of these same stores. To sum up this line of reasoning the study says:

"Thus changes in the number or proportion of shopping goods outlets may be taken as a final test of the direction in which the central area is moving. We may conclude that when the shopping goods distribution function shows signs of absolute decline, the literal deterioration of the central area has begun, and land values will begin to fall. But so long as the shopping goods outlets are holding their own, land values will also hold steady; or if these types are absorbing an increasing share of central area space, the central area is prosperous."[26]

When this general test was applied to the central area of Madison, it was found that a significant increase had occurred in the proportion of land used by the shopping goods group between the years 1921 and 1950. Since 1950 three community type

shopping centers have opened at periphery locations in the city which have department store units. Two of the department stores are branches of a major downtown outlet which has had physical expansion difficulties at its original site.

Concern is frequently shown over the fact that the physical extent of the CBD is shrinking in terms of ground area and floor space. Evidence of this condition first appeared in noticeable proportions during the Thirties when obsolete buildings were razed to save on taxes. Resulting land space was often used for parking lots. Many marginal retail sites near the edges of the CBD were also abandoned. Since that time this slack, in most cases, has not been taken up. However, the fact that a lateral or floor area expansion in the retail center of the community fails to occur does not mean that the volume of business is failing to grow. Evidence on the matter shows that as a community grows, efficiency and intensity in the use of central area space is likely to increase. More floor space is not always necessary when a significant rise in trade volume occurs. Moreover, there is a tendency for ground floor operations which do not use their space intensively, such as furniture sales, to be displaced by intensive uses, such as variety stores.[27] Multi-floor operations such as department stores are also likely to begin using central area space above the ground floor more efficiently than ever before.

A companion study of Madison's CBD covering a different and more concentrated time period (1946-1955), reported that whereas the area had lost 43 retail establishments, a 14 per cent decline, *employment* in retail outlets had climbed by 840, a 40 per cent increase.[28] These data seem to bear out the argument of more intensive retail use over time.

In including these comments on CBD retail activity, some general reference to the economic health of the central business areas of our larger cities is in order. Paul F. Wendt, in an investigation of central area property values in San Francisco and Oakland, maintains that on the basis of data from this metropolitan area there is no cause for alarm. He points to several conditions which have tended to hold business, includ-

ing retailing, at the center within recent years. For example, he claims that old buildings, fully depreciated on the books of present owners, represent attractive investments to prospective new owners because tax laws permit new owners to establish depreciation charges based upon purchase prices—tax free income to the investor.[29] Moreover, the prospect of having to pay high capital gains taxes upon the sale of properties has discouraged present owners from selling. This has, of course, tended to raise offering prices. Prices on old structures have, nonetheless, been able to maintain a very advantageous margin over the price which might have to be paid for equivalent space in a new structure erected under present high construction costs.[30]

2. *Traffic and Transit Considerations.* It is a truism that the street systems of a greater part of most of our American cities and the arrangement of land uses within them were not designed with the motor age in mind. It is also obvious that since the CBD is likely to be found in the oldest part of the community, there is to be observed the obsolescence of the street system at its frustrating ultimate. In spite of this it may be news to the harried motorist to learn that things once were much worse. Insofar as the CBD is concerned, even more dramatic improvements may be in prospect. Note an expert comment on this situation:

"Despite much talk to the contrary, congestion is not a serious problem in most large city downtown areas. As a matter of fact, in the typical large city like Chicago, it is not nearly as severe today as it was in the early 1920's. . . . Only the cross-town streets in Manhattan are about as bad as they were 30 years ago."[31]

When thought is given to the phenomenal rise in the number of automobiles since the first decade of their large-scale introduction in this country, any degree of improvement in their control is equivalent to turning back the tides. Numerous devices and approaches to the handling of large volumes of automobile traffic have been designed with the CBD in mind. By way of example there is the "ringroad," an English creation

which technicians in this country may know better as a "circumferential." Commonly applied to busy central areas it may circle the center of the CBD at a radial distance of two or three blocks. This makes traffic movement at and near the center more efficient by diversion of through traffic. In the case of the CBD, which is often large in area extent, it makes the selection of a precise point of entry to the district easier for the approaching motorist. A street form closely allied to the ringroad is the belt highway, which circles the community, frequently outside the municipal boundaries of the central city. It operates in much the same way as the ringroad, except that while the ringroad may divert through traffic of local origin the belt will divert non-local traffic from the city as well as the CBD.[32]

Another traffic control development which shows great promise as a means of reducing central district traffic pressures is perimeter parking. As used in this discussion the perimeter plan involves a series of parking lots which may abut the ringroad. By this device the driver approaching the CBD selects his point of entry, parks, then continues on foot or by shuttle bus, depending on distance, to his destination. The shuttle bus itself performs a valuable control function in that it can, while making a return loop through the core of the district, speed shopper movements *within* the core. Exclusion or strict control of street parking inside the district helps to contribute to the smooth flow of traffic, particularly the movement of public transit vehicles, and discourages the entry of private vehicles past the perimeter parking areas.

While more parking *at* the center is widely considered to be the major need of the CBD, the contrary view should be heard. Those opposing the parking solution say that the provision of central area parking lots and structures has an adverse snowball effect. Thus, more parking encourages more car driving, which requires still more parking. At first hearing, this sequence of events seems desirable. Isn't it the objective of the CBD not only to hold business but increase it? However, the net consequence of the policy, aside from a cumulation of parking space demand, may actually be serious impairment of

central district efficiency. If accessibility is one of the strong points of the center, it should be maintained, not weakened. Basic side effects of the parking "solution" include: (1) A general increase in traffic flow so that the street system of the district may become more and more clogged in spite of prohibitions against street parking; (2) Pressure for the introduction of expressways to move the swollen traffic volume into and out of the CBD. Expressways can work in team with parking at the core as the breeder of even more car movements. (3) The introduction of parking lots and structures at the center may well remove valuable structural improvements from the area. (4) Impediment of transit vehicle flow.

Parking in the CBD is given more perspective when viewed from the standpoint of purpose of trip and city size, as shown in the table below.[33]

PURPOSE OF TRIP TO CBD, PARKERS ONLY*

Population Size	Number of Cities	Work	Business	Shopping	Other
3,000- 10,000	2	15%	32%	27%	26%
10,000- 25,000	16	16	30	33	21
25,000- 50,000	16	17	32	29	22
50,000- 100,000	4	17	30	30	23
100,000- 250,000	13	16	38	25	21
250,000- 500,000	8	13	42	17	18
500,000-1,000,000	5	22	44	18	16
Over 1,000,000	3	41	31	13	15

* U. S. Bureau of Public Roads, *Parking Guide for Cities* (Washington, D.C.: Government Printing Office, 1956), Table 26, p. 29.

Interpreted in general terms, the table shows that as size of city increases the proportionate importance of the CBD for shoppers driving cars declines. It is likely that shoppers arriving by

transit increase in proportion with city size but still not enough to counterbalance completely the percentage decline in parkers. As the proportion of parking shoppers declines, the proportion of employees who travel to the center increases with growth in city size. Moreover, those who come to the CBD for business only show an increase in the proportion of parkers up to the one million city population level. For the giant metropolitan centers above the million mark the parking proportion falls sharply again for business trips to the CBD, while employee trips make their most abrupt jump, from 22 to 41 per cent. It must not be concluded that the decline in shopper auto trips to the center as city size increases is an absolute change. Quite the opposite is true in nearly every individual case. However, the relative position of the allegedly critical shopper parking problem is highlighted. It might be concluded on the basis of these data that the provision of shopper parking is a serious matter for cities of less than 250,000 population. Probably only for those cities between 100,000 and 250,000 would such traffic devices as ringroads and perimeter parking be appropriate. For communities smaller than 100,000, variations of the perimeter parking plan, only much nearer the shopping core, combined with highly restricted street parking enable the street and transit system to function properly. In the case of cities with 100,000 to a million population, the proportion of business trips to the CBD rises most rapidly. Convenience is highly important to this group. Consequently parking facilities aimed at the needs of these people should receive the most emphasis in cities of this size class. In the one million plus group of urban centers the main parking emphasis comes from the employee, with business a declining second. For the employee group, convenience is not as critical. It could be concluded that in these very large cities sterner measures might be employed to discourage parking and encourage use of transit. While the shopper may, over time, tend to divert some of his trade because of declining parking convenience, the worker is far less likely to consider a change in employment location because of a lack of suitable parking facilities for his car.

A study of movements of people into CBD's of metropolitan districts with populations in excess of 100,000 showed that in 1950 the tendency was for the mean number of persons per 1,000 population entering the district to decline as city size increased.[34] Between the hours of 7 A.M. and 7 P.M. the number of persons per 1,000 with a destination in the CBD of a metropolitan district of 100,000 to 249,000 population range was 253. This compares with only 107 in the metropolitan district of three million and more. Decline in the rate of entries was most dramatic between the 500,000-999,000 population group and that of 1,000,000-1,999,000, where a fall from 235 to 170 was reported. When the situation was viewed over time (1926-1950) this same study found that for metropolitan districts of less than a million population the rate of entries was rising, while for metropolitan districts of more than a million the rate showed a slight decline. The meaning of these data is, apparently, that continuing urban growth results in the long run in less rather than more pressure on the core of the city in proportion to city size. However, over time, for any metropolitan area of less than one million population, the tendency is for the pressure to increase. As traffic volumes increase there will arrive a point at which it becomes practical and economical to install successively more and more of the regulatory devices already described. These devices will materially ease the traffic pressures on the area. Then if the line can be held, rising population, while adding pressure, will do so at a declining rate. More fundamental changes in the arrangement of central area land uses over the years, in the handling of business service deliveries, and in education of the public toward the use of public transit are certain to add their impact to the encouraging progress already made. Thus the future prospect for the traffic problem of the CBD's of American cities is definitely favorable as long as we studiously avoid overall treatments in which one method of traffic control negates or weakens another.

3. *Trends in Non-Retail and Office Uses.* New evidence is appearing to support the view that much publicity relative to the CBD is entirely too pessimistic. Part of the trouble has been

that too much attention has been concentrated on the retail function of an area which is multifunctional. According to research data which appeared in the preceding section there is reason to believe that functional roles in the CBD are changing and that the non-retail role is apparently growing in importance. This growth in non-retail *weight* may in some cases have developed from decline in retail activity. However, as Ratcliff's study of the Madison central business area showed, retail trade, while declining in terms of number of establishments, was climbing when the measure was shifted to employment and dollar productivity.

A companion study of Ratcliff's made by Howard D. Lowe contains this provocative statement:

"Little is known about the relative importance of retail and non-retail functions in the central district and whether non-retail functions downtown are gaining or losing importance . . . With a fundamental part of the analysis of the CBD virtually missing, there is no perfect assurance that proper conclusions have been reached regarding the deterioration of the central district nor how it might be remedied."[35]

In his study of Madison's central district, Lowe found that between 1929 and 1955 the district's *share* of both business establishments and employment within the city as a whole declined. However, during that span of time the district showed growth in both these categories in absolute terms. Presenting figures covering a shorter time period (1946-1955) the study reported that non-retail uses added 59 more establishments and 3,280 more employees. The employment rise was a 44 per cent gain, only slightly larger than the 40 per cent gain (840 employees) for retail outlets in the same period.[36] Relative employment weights of retail and non-retail can be judged from these totals. Total employment for the district in 1955 was computed at 13,660 daily workers.[37] Lowe was of the opinion that there was little if any dependence of the non-retail functions, such as business and government office use, on the retail function. If anything, the dependence was reversed, in that retailers were looking more and more to the shopping goods trade of the pre-

dominantly female office workers of the district. The fact that this patronage was increasing at such a rapid rate under the impetus of government hiring at all levels seemed a particularly auspicious omen for retail activity. It is doubtful, however, that this is actually a one way type of dependence. Presence of wide range shopping facilities under conditions of maximum convenience is certainly a fringe attraction of no mean importance that can be gratuitously offered by *all* employers of the central area.[38]

Data on insurance company use of office space over the critical time span of 1946 to 1958 showed changes less discouraging for the CBD than was at first suspected. During this period the insurance industry had decentralized by about 40 per cent from the tight central core of the CBD. However the decentralization was only 30 per cent when both the core and the CBD "frame" or periphery zone was considered. This would seem to indicate that the frame has a potential for office use that has not been fully appreciated. Apparently some uses move from the core to the frame rather than to the community's edge. In the frame they are able to retain many of the advantageous contacts which are so important to them in the core while obtaining more space and, possibly, new quarters at relatively reasonable costs.[39]

With rapid commercialization of our urban economies now in progress it is vital to note the peculiarities of the office activity which is becoming one of its principal land use or spatial expressions. Moreover, we must try to understand the underlying reasons for the concentration of a significant part of office activity in the CBD. Some tentative explanations follow:

(a) *Information* is one of the most valuable and perishable items in the stock-in-trade of commerce. Knowledge of markets for a product or service must be fresh and up to date—not last week's or yesterday's gossip and news, but today's. While information is not a critical factor for all office oriented aspects of business, it is bound to rise even further in importance as the commercial trend of the economy gains impetus. This implies

close physical proximity to the more informal means of communication, rumor and gossip.

(b) The need for *negotiation* of numerous important business deals represents another basic reason for the concentration of top administrative offices in the CBD. In spite of telephone and teletype a large volume of business must be transacted on a face to face basis. The nuances of bargaining require the ability to see facial expressions of not only one but several participants to a business discussion. Physical proximity of negotiators and the ordering of seating plays a role that cannot be overcome by mechanical means, even closed circuit television. Like information, negotiation, because of its frequency in many situations, requires maximum physical convenience for the parties involved. Executives moving to isolated suburban office locations are also said to miss the informal clash of wits that arises as the result of contacts with competitors' representatives in the central area.

(c) *Prestige,* a highly valuable commodity in the commercial world, is to be gained by close proximity to the best addresses and the "right" firms. This variety of office orientation is of importance to professional groups, like lawyers and accountants, as well as to general merchandisers of goods and services. Prestige is a cumulative condition in that the greater the concentration of reputation offices, the greater the drawing power of the total group. Therefore, whereas the downtown in most cities has always been the prestige business area, there is every indication that this "function" will increase in importance. A dramatic bit of evidence of this is to be found in the two main business districts of Manhattan Island. Here office building construction, within the last decade particularly, has been of phenomenal proportions. One of the explanations for this surge in building has been the desire on the part of old and new office occupants of the area for larger and more elaborate quarters, even though the size of the individual office force has stayed about the same. Former quarters were in most instances commodious enough but lacked the tone, décor, and elegance which were being patronized by the acknowledged

leaders in each line. From the standpoint of economy of operation, dollars are not spared on this type of office space which might be considered the "front door" or the "front parlor" of the firm.

(d) *Inter-office linkage* plays its part in explaining the importance of office concentration at the center and its continuing rise. By "linkage" is meant the close association of many independent firms in the production of goods or services. In the office world it might even be said that information, negotiation, and prestige are types of linkage, along with the competitive reasons for the clustering of like types of offices. However, the linkage referred to here is of a more technical variety. By way of example there can be cited the many related services which are pulled to the downtown district by the central offices and financial institutions. These include advertising agencies, employment agencies, management advisory services, and addressing and mailing services. For some small scale organizations with central offices in the CBD there is also a tendency to depend on independent legal and accounting firms. In short, there is much the same relation here as exists between small-scale manufacturers at the center and sub-contractors, freight distribution services and freight forwarding concerns, equipment leasing companies, and maintenance tradesmen, such as specialized electricians and plumbers. These relationships add up to a critically important aggregate of external economies of scale.[40]

(e) *Negative aspects of alternative locations,* particularly suburban sites, also tend to point up the significance of the urban core for efficient office operation. *The Wall Street Journal* in its August 2, 1961 edition highlighted some of these negatives in an interesting manner. The writer of the article, Laurence G. O'Donnell, emphasized the fact that, despite general beliefs to the contrary, suburban locations represent very substantial dollar investments, occasionally at a scale comparable with downtown. Cheaper suburban land, lower construction costs and taxes are offset by such factors as extra investment in large parking areas, cafeterias, elaborate landscaping, subsidized buses,

and additional company cars for maintaining downtown contacts. Personnel problems are not the least of the difficulties of large corporation complexes that consider moves to the suburbs. One New York firm discovered that it would lose 45 per cent of its staff if it made a short move of this type. The basis for this turnover rested very largely on the dislike of reverse communting by the office staff and the loss of noontime contacts with friends in other downtown offices. For those employees for whom a move of residence from the city would be necessary, high suburban living costs were a deterring factor.

Some observers believe that only the largest cities may benefit from continued office growth at the expense of lesser regional office centers. This belief is based very largely on the expanding use of air travel by top executives and the consequent reduction in the need to delegate administrative functions.[41] This condition, however, is still very much of an unknown, which awaits more detailed verification and interpretation.

While exact statistics do not appear to be available, there is scattered evidence which indicates the current and emerging role of government operations in the CBD. The central district has, of course, been the focus of city and county administrative operations for generations. In smaller communities the courthouse square or the statehouse square is the most conspicuous expression of this focus. Over the years expansion in the functions of government has meant spatial expansion of clerical and judicial functions within the CBD. Occasionally governmental expansion follows a cyclical pattern. The first stage will be one in which growing functions are forced to rent private office space. This phase eventually reaches a quantitative stage, which brings on the second phase in an addition to the city hall, county courthouse, or statehouse. Many times the new space may be situated in a separate, expandable office building. Consolidation of city and county functions in a single structure is usually found to be the most efficient approach to the accelerating fight for more central area space. An even more rapid proliferation of Federal administrative offices in the CBD ap-

pears to be feeding the general growth in demand for central office space. Like local government office expansion, Federal offices tend first to spot through the CBD in privately rented space, which is later consolidated in a Federal office building. However, this consolidation tendency seems less strong than in the case of the local government offices. Federal government policy continues to favor the national decentralization of clerical functions from Washington. Over the years this will mean substantial growth for the major regional centers of the country, particularly in the Middlewest, the Southwest, and the Pacific coast.[42] This trend is, of course, in addition to the expanding distribution of district and sub-district offices which has been going on in almost all urban centers since the 1930's. Some dispersion of government office operations within urban areas has been occurring. Large scale users of office space who are not in frequent contact with the public are among the leaders in this aspect of dispersal at the state and Federal levels. However, no outward movement of any significance is in progress for the clerical and judicial activities of city and county.

The upswing in government office activity and building which has occurred over the past twenty-five years has no doubt been one of the major factors which has given impetus to the perennial civic center aspirations of urban communities in this country. However, a new aspect has been added to this old dream which means added vitality for the central district. Educational and cultural activities which over the years have hovered at the edges of the CBD now are in the process of strengthening this locational tie. Increasing interest in adult education and technical training has strengthened two types of central area institutions—the university extension or night school and the public vocational school. As these activities have grown in patronage, many private business colleges and technical schools have also appeared in central locations to participate in filling the new demands for training. In cities of more than 500,000 centrally located independent universities or university branches which present degree curricula are expanding at a rapid rate, which will be further accelerated by the enrollment upsurge

anticipated in the middle Sixties. While central library operations are dispersing by means of branches and bookmobiles, the main libraries in large cities continue to expand and add new facilities. The main libraries are in a sense beginning to function like the department store of the CBD, in that they present a range, variety, and specialization which is unobtainable in the dispersed locations.

Under the pressure of increased commercialization and organized professionalism in the United States, the trend toward more and more convention activity is evident. In bidding for this lucrative business cities have become increasingly interested in the erection of auditoriums. In many instances the community goes a step further and develops a building complex which serves the cultural and sports interests of the community via arenas, art galleries, theaters, concert halls, and organization meeting rooms. Almost invariably a central location adjoining the CBD is chosen for this type of development. This is done in order to provide maximum convenience of access as well as maximum availability in terms of proximity to hotels, eating places, and shopping for both the visitor and the native patron.

Programs of Adjustment

The central core of American cities is in a state of flux, which has been dramatic in its change of form, content, and function over the past forty years. Adjustment to this change has been forthcoming from the start of the period. But only within the last decade has a sense of insecurity begun to develop concerning the adequacy of "normal" adjustment processes to save the CBD from temporary or permanent eclipse. To what extent this alarm is justified is partly a matter of judgment. The purpose of this chapter has been to give that judgment perspective. In an effort to help along the process of adjustment in a way that will favor the evolution of the CBD, various techniques have been employed. Brief comment on the nature, meaning, and appropriateness of some of these techniques is needed before drawing the discussion to a close.

(1) *The shopping mall and area redesign.* One of the most widely publicized and spectacular forms of treatment that has been applied directly to the CBD is the shopping mall or plaza. Under this plan several blocks of the principal shopping street of the city are closed to traffic. The street area may be filled and then landscaped with shrubs, flowers, benches, and free form walks. This program may be accompanied by remodeling of many store fronts along contemporary lines and by the provision of specially designed replacement parking space nearby. Experimentation with this idea has taken place on the largest scale in Toledo, Ohio and Kalamazoo, Michigan, and in more grandiose paper plans such as those prepared by Victor Gruen for Fort Worth, Texas. In the Fort Worth plan the entire core was redesigned; related building groups (offices, cultural, educational, medical) were established; a ringroad with perimeter depots for transit and parking for cars represented the area frame, while internal deliveries of goods and servicing vehicles for the area's buildings moved through tunnels, thus freeing the surface for smooth pedestrian flow. Throughout these plans the emphasis is on redesign of the retail trade district. It is probably true that this particular function is in many respects the most obsolescent in the CBD. The fact that many of the redesign ideas, including goods and service tunnels, are taken over bodily from the directly competitive regional or community shopping center is of great significance. One may legitimately question whether, in what is a frantic race to catch up, the transfer of the shopping center plan over to the CBD is not impetuous, ill judged, and in many respects inappropriate. There is also the question of balance. In concentrating so heavily on the retail function of the core, is it not possible that we are neglecting to aid or are giving inadequate attention to far more important functions? Is it not possible that in some instances devotion to the retail aspects may injure the welfare of other functions?

(2) *Zoning Modernization.* In Chicago and New York long strides have been taken toward modernization of zoning in the central areas. There have been three general objectives in the plans involved.

By means of the floor area ratio (FAR) device the design of downtown structures, office buildings in particular, has been freed from rigid restraints. Less mechanical monotony and more individualized beauty of design is made possible in new construction. Reduced lot coverage combined with artistic treatment of the building setback can enable the CBD by means of FAR to flaunt more proudly its innate structural stimulation and inspiration, too long shrouded in dull bureaucratic envelopes of mechanical architectural regulation. New York's famed Seagram Building is the best single physical expression of these ideas. The light, air, and visual freedom which designs of this variety inject into the canyons of concrete spell the beginning of a new era.

Grouping of structures with closely interrelated or linked uses is facilitated by what is described as special district zoning. When applied to the CBD, as expressed in the Fort Worth plan, this form of zoning control will tend to reinforce and improve one of the natural internal advantages of the CBD: convenience of shopping, business, or pleasure through the appropriate clustering of each of these activity patterns as well as the appropriate spatial relation of one pattern to another. Simultaneously with augmented convenience should evolve a more efficient flow of vehicular traffic (if allowed).

A third goal of improved zoning in the CBD, which should be a partial resultant of the first two, is conscious aesthetic treatment of the skyline and street length vistas of the area. An important, specialized aim of this third phase is the preservation of many clusters of small shops and by-ways which can give the charm, color, individuality, variety of visual image, and human scale that is necessary to maintain the warmth, stimulation, surprise, and deeper vitality of the district.

Treatments such as these, while not spectacular on paper, tend to get at the central problem of CBD adjustment. They are nonetheless surrounded by hostile camps of private vested interest and delaying political maneuver.

(3) *Renewal of the Hinterland.* The one area in which the greatest volume of activity under the urban renewal program

of American cities has been taking place is that of the extensive, decaying, urban hinterland surrounding the CBD. This hinterland is a conglomerate of old and ugly housing, even uglier and inefficient commercial strips; marginal and incubating industries, struggling for existence in outmoded lofts; prominent hospitals, educational and religious institutions, fighting for expansion room and a living environment suitable to their professional personnel. Under progressive renewal programs such as those found in Chicago, inroads are being made on all of these land use fronts, with heaviest emphasis on housing clearance and construction. The significance of the hinterland to the CBD in terms of stability, efficiency, and even quantity of labor force as well as business patronage has already been described. Here the intent is to underline the fact that successful adjustment of the CBD to change is closely bound to a similar and sympathetic adjustment of its immediate hinterland. Therefore, the condition of a city's central district hinterland and the program to aid its adjustment can be taken as highly important indicators of the future welfare of its business and cultural core.

Concluding Comment

We are usually uncomfortable in the face of change. Change means uncertainty. The removal of uncertainty can be accomplished only by the careful definition of our problems, and finally by the formulation of a problem solution that must be unhesitatingly applied. In this chapter general beliefs and partial problem statements have been presented in the hope that they will stimulate productive thought on the central area problems of particular communities.

It may be that as our society becomes increasingly urbanized the core is assuming a new character. Is it to become in a more specialized sense the administrative and cultural heart of our community life? Is it undergoing a renascence that will restore its retail sector to its old eminence? Or will technological advances in transportation combined with our desire for dispersed living finally cause our work locations to scatter, thus

ending what may be the outmoded expression of past ways and goals of living? The answers are vastly important to the American city in all senses—economic, social, political, and psychological.

NOTES

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9. Deil S. Wright, *Central Business District of Flint, Michigan. Changes in the Assessed Valuation of Real Property,* 1930-51 (Ann Arbor: Institute for Human Adjustment, University of Michigan, 1954).
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12. *Ibid.,* pp. 180-181.
13. *Ibid.,* p. 178.
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16. Mabel Walker, *op. cit.,* pp. 72-73.
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22. *Ibid.*, p. 21
23. *Ibid.*, p. 34.
24. *Ibid.*, p. 35.
25. Richard U. Ratcliff, *The Madison Central Business Area*, University of Wisconsin, School of Commerce, Bureau of Business Research & Service, Madison, 1953.
26. *Ibid.*, p. 44.
27. *Ibid.*, p. 43.
28. Howard D. Lowe, *The Location of Non-Retail Functions and Their Relative Importance in the Central Business District of Madison, Wisconsin*, (Indiana University: Bloomington, Unpublished Doctoral Dissertation, 1957), Chapter 10.
29. High purchase price on an old structure can be written off at high annual rates on a remaining building life which is, hypothetically, short.
30. "Central City Property Values in San Francisco and Oakland," *Parking as a Factor in Business*, Part 4, Washington, D. C., 1953, p. 118.
31. Richard L. Nelson, *op cit.*, pp. 32-33.
32. Central area merchants of small cities are frequently disturbed at the prospect of what by-pass highways may do to the volume of their sales. Studies of the effects of the by-pass show that in a great majority of cases there was no decline in business and in many instances an actual increase. Increases were due in part to population rise but in greater part to the improved ease of movement in the central shopping district.
33. U. S. Bureau of Public Roads, *Parking Guide for Cities* (Washington, D. C.,: Government Printing Office, 1956), Table 26, p. 29.
34. Donald L. Foley, "The Daily Movement of Population into Central Business Districts," *American Sociological Review*, XVII (October, 1952), p. 541.
35. Howard D. Lowe, *op. cit.*, Chapter 10.
36. *Ibid.*, p. 13, Chapter 10.
37. *Ibid.*, p. 14, Chapter 10.
38. Time available for shopping is reasonably long in this district for the non-retail worker. In addition to lunch hour time the employee has open to her a half hour between office closings (one hour for government offices) and retail closings at 5:30 p. m. during most of the year.

39. Edgar M. Horwood and Ronald R. Boyce, *Studies of the Central Business District and Urban Freeway Development,* (University of Washington Press: Seattle, 1959), p. 69.
40. Raymond Vernon, *op. cit.* pp. 55-57.
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42. An example of this trend may be found in Dallas, Texas where Federal employees represent 5,000 of a total of 7,700 government employees. Business Executives Research Committee, *op. cit.*, p. 23.

4

The Dilemma of Urban Traffic and Transit

Introduction

There are few persons who would dispute the inclusion of urban traffic and transit among the controversial issues involved in a discussion of current city growth and development. Here is a problem which for urbanites is almost universal. Within the community itself everyone is affected by traffic and transit problems in one way or another. For the pedestrian the basis of concern may be both a matter of survival and convenience; for the businessman it is a problem involving trade volume and profits; for the local government official it is a situation of peculiar political sensitivity; while for the driver of the private automobile or transit vehicle no comment is necessary. Urban traffic is, moreover, a problem which is not unique to the United States. Although this country has the greatest volume of automobiles in relation to population in the world, it has no monopoly on traffic jams, which can be created just as effectively by large flows of bicycles, pushcarts, and pedestrians channeled into narrow and winding streets.

Argument is frequently raised over the question of whether or not urban traffic is the number one city problem which many think it to be. It is maintained that housing, metropolitan governmental relations, and urban renewal, by way of example, carry far greater weight in any system of problem priorities which might be set up relating to the American scene. While there is undoubtedly much sense in this point of view, it is

still true that problems stemming from the traffic situation in most cities are the ones which seem to command the most immediate and intense reaction from the average citizen. Consequently, one of the objectives of this discussion is to place the urban traffic problem in some sort of perspective that will enable us to judge more cooly its relative importance. One special aspect of this examination will be a discussion of urban transit, which in the minds of not a few motorists and many transit patrons is going the way of the horse and buggy. Such an evolutionary fate may be destined for transit. If it is, what are the implications for city growth, efficiency, and liveability?

The fact that this chapter on traffic follows the discussion of the central business district is more than coincidental. It will be recalled that many of the trials and hopes of the CBD are traffic-oriented. It can be observed, further, that much of what is currently described as *the* traffic and *the* transit problem has a point of origin in the CBD. We must not conclude, however, that a solution of the principal ills of the CBD will cure the traffic problem or, that a major attack on the city's traffic headaches will produce immediate well being for the central area.

In order to encourage objective thinking, particularly in this area, the pro and con approach which has been utilized up to this point in the book has been abandoned, and following a general statement of the problems of urban traffic, there is an appraisal of their significance and implications. As a preliminary to a more careful examination of the urban traffic situation, some background economics will serve to highlight the importance of traffic flow to city development.

The modern city is composed of a multitude of individual properties. These properties tend to cluster in groups of like use. As a result there occur residential districts, industrial areas, institutional complexes, and shopping zones. Each of these areas or districts can be viewed as a specialized physical part in an economic and social machine which is called the "city." These mechanical parts are highly interdependent as are the parts of any machine. The degree to which the entire machine functions

with efficiency is dependent upon the smooth interplay of the parts. The street and transit system of the city not only ties its mechanical parts together in a physical sense but also provides the means whereby the vital interplay of the parts becomes possible. If the city is to operate with any degree of effectiveness inter-area contact and accessibility must be kept in top working condition.

Accessibility is critical to the economic productivity of property, whether it be residential, commercial or industrial. The productivity of property, what it produces in rents, profits, or non-monetary services, will determine its value. What value means to the specific owner and to local government needs no explanation. Prices of goods and services to the citizen and to business firms are influenced by their degree of accessibility expressed in dollar costs of movement over the streets and by means of the transit system. Accessibility within the city and the modern metropolitan area changes in character over time as technology provides not only different kinds of transport vehicles but also new concepts of the right-of-way such as the expressway and terminal points like the heliport. The impact of these changes both on the physical arrangement of the city's parts and the efficiency of their economic and social interplay is one of the principal concerns of the discussion in this chapter.

General Meaning of Current Urban Traffic Phenomena

Within the past seventy-five years as the rate of urbanization in this country has accelerated, drastic changes in the mechanical means of circulation have occurred. In fact, mechanical transportation devices, while making quantitative growth more possible, have at the same time dispersed population in a truly explosive manner. We can therefore conclude that we are passing through a period of technological evolution in the means of transportation, which has only begun to express its force of change on the face of the city and the ways of life of those who live in it. As familiar as the automobile is to all of us there can be little doubt that its impact on the city has only entered its first phase as we approach not only universal

automobile ownership but multiple ownership. Urban, regional, and national freeway construction is in its early stages of extension, while the influence of the helicopter on the circulatory system of the city is still an unknown. Some believe that the helicopter will ultimately have more drastic dispersive effects than the automobile itself.

Technological devices are in most instances no more than triggering mechanisms which give expression to more deep seated economic and social attitudes which, in turn, are the means of expression for even deeper human impulses. Consequently, if we are to look very far into the future in terms of what is going to happen as a consequence of technological change in transportation, we must simultaneously forecast the economic and social characteristics of the cumulating urban population and the basic impulses which are likely to guide it. Whereas this line of thinking may seem to focus at a high level of abstraction, answers to the questions which it raises are mandatory before a very intelligent beginning can be made on traffic problem solutions. To be more specific, the urban scatter, which is usually attributed to the automobile, has its roots in higher real incomes, shorter working hours and weeks, paid vacations, long term installment financing of homes and automobiles, desire for open space and prestige, plus a desire to escape from the growing complexities and irritations of the central city. Insofar as suburbanization is concerned, the auto has had its influence supplemented by other mechanical devices which have facilitated dispersed urban living. These devices include the septic tank, the pressure water pump, the deep freeze, the telephone, radio, and television.

In order to bring the entire discussion into a sharper focus, consider some of the basic assumptions on which modern systems of urban transport are based:

(a) "Central cities will grow even bigger, and in this process every available form of transportation should focus on the center."

It is hard to contradict the facts supporting this assumption. Although the city is more dispersed than it was thirty years

ago, the densely built up core continues to extend its radius, engrossing previously "free standing suburbs" in the process. Moreover, the major portion of street widening and freeway construction involves radial highways that fan out from the CBD in a spoke-of-wheel fashion.

This trend points up what have now become other basic assumptions:

(b) "Radial expressways will solve the traffic problem."

(c) "Ring roads or circumferentials are of less importance than radials in reaching a lasting problem solution."

(d) "Suburbs are still primarily dormitories."

This means that places of employment for the suburban dweller must necessarily be in the central city or at isolated sites outside the urban core. The obvious consequence of this spatial arrangement of home and place of work is a relatively long haul by some sort of vehicle, in most cases the automobile. In part, the reason for this home-work separation is to be found in the inadequacy of central city housing and the opposition of most suburbs to the introduction of manufacturing or office centers and apartment developments within their limits.

(e) "Express highways and off-street parking, both at the core and in shopping centers, are more urgent than improved mass transit."

Evidence of this line of thinking is more prominent in the multiplicity of off-street parking sites than of expressways, which come into being more slowly because of their greater cost. Neglect of mass transit is so commonly observable that it almost appears to be carefully promoted public policy.

Perhaps the most questionable of all the assumptions, under which we are currently operating proclaims:

(f) "Present demands of the circulation system are the best index of future demands."

The consequences of this assumption will be discussed in more detail at a later point in the chapter.[1]

Another assumption which is not explicit in most traffic programs, but which seems to be accepted more widely all the time, is that the main purpose of traffic policy is to derive

all possible benefits from the use of automobiles. This seems to imply that the private motor car has the right to go anywhere, at any time, and halt where it wishes. One observer of this scene of general confusion has aptly summed up the contradictory spirit of our current traffic programs when he points out: "It would take a great mind indeed to decide which set of planners is more irrational—the people who are piling up high structures in the overcrowded business districts of our cities, or the people who are creating cross-country expressways that dump more traffic into them."[2]

In the course of evolution of transportation forms within the Twentieth century, the nature of competition among the different "carriers" seems to fall into two main phases. In the first phase, following World War I, the meteoric rise of the automobile and the motor bus began to make serious inroads on the business of railroads, elevated, and electric rapid transit lines within metropolitan areas. During the second phase, after World War II, the bus joined the downward trend, making it apparent that public transportation generally was now on the wane under pressure from the privately owned automobile. In the relatively few years between 1946 and 1953 a 50 per cent decline occurred in mass transit use throughout the country.[3] While the rate of decline seems to have diminished since that time, transit use, is, nonetheless, still falling. Nearly 70 per cent of all families in the country now own an automobile and nearly 10 per cent own two or more.[4] It is common knowledge that the rate of automobile ownership is rising more rapidly than the rate of population growth. With this combination of factors at work, transit decline and automobile increase, it is not surprising that congestion in most large cities has become worse in each of the past ten years.[5] Whether or not the congestion continues to increase is largely dependent upon the intelligence and intensity of public policy actions from this point on.

By way of summary it can be said that current problems with urban traffic are the outgrowth of at least three general situations: (1) the increasing use of the automobile, (2) the gradual abandonment of transit, and (3) the sharp rise in urban

population. If these were static situations, the prospect of arriving at adequate solutions or controls would not be so bleak. But, as has been stated, the patronage pattern of transportation forms changes each year. Population increase, in urban areas is estimated at 55,000,000 by 1975. In effect this will mean a 50 per cent increase in city populations, and, we are told, a 100 per cent increase in automobile use. As one writer has put the problem: "This growth of people and automobiles is like suddenly putting two or three human bodies to work on the arteries and blood vessels of a single human system."[6] It can be said, therefore, that we have yet another major problem, which in the minds of many is *the* problem: adapting the city in its old form to the new, still evolving forms of movement. Here controversy enters the scene again accompanied by questions of great complexity. If the old form of the city is to be remade, and this means primarily the central city, what of the cost of such an approach; what will new forms of movement do to the structure of the old city and the arrangement of its uses if they go unguided; what about other and older forms of transportation? Should they be allowed to fade away completely in the competitive struggle? Some authorities seriously doubt that the big city is capable of adapting to the automobile and point to what they term the failure of the Los Angeles freeway system in support of their pessimism. In any event there can be little doubt that expanding urban culture is faced with a dilemma of major proportions.

Evolving Difficulties of Transit

One of the best practical reasons for devoting rather extensive consideration to transit is the fact that it is, at present, the most efficient means of moving large numbers of people in large cities as they are now organized. If the old city structure is discarded in favor of something new, then maybe transit will be out of the picture or play a lesser role than it does today. On the other hand, if transition to a new city form is slow, as is highly likely, or if such transition does not take place at all in the central city, then the preservation and even

promotion of transit may be the best policy for a long time to come.

Let us start the analysis with a brief historical examination of the development of urban transit in this country.

History of Urban Transit. Transit or public transportation in this country is a development of only the last 100 years. Before the arrival of transit, cities were necessarily small in area. The radius of movement was determined by the distance a man might travel by foot, horseback, or buggy. This situation also restricted the overall population size of the city. In rapid sequence, transit in American cities developed from the horse drawn omnibus and the horse car on rails of 1870 to the cable car of 1880. The electric street car appeared in 1890. Shortly thereafter New York and Chicago installed the first elevated steam lines. As early as 1910 the electric street car line had spread to every city of any size in the country. It was customary to construct these lines radially from the central business area to the then rather tightly drawn periphery. This method of movement resulted in the compact populations of high density so familiar in today's central cities. Once the area within the radius of these lines was built up, adjacent areas still farther out were then subdivided and put on the market, frequently by the investors behind the extensions of the streetcar lines. Suburbanites well beyond the built-up city were served by steam railways with a regularized commuter service as early as the 1890's. Steam lines radiating from the city proper established bead-like strings of suburban stations as far as 30 to 40 miles outside the central city, which served the settlements which had begun to follow the rails outward. Well up into the Forties the transit systems (railroads excluded) maintained a five cent fare. It played a significant role in holding population near the center and off the suburban commuter lines. During World War I public transportation, in its then rather highly developed form, received the setback which was, in a sense, a mortal blow. Shortage of steel, mechanical equipment, and manufacturing personnel during the war years curtailed steam rail line extensions in general and the electric street car lines

in particular. With this situation was combined a substantial increase in capital and operating costs, the inevitable consequence of those inflationary days. Transit fares, however, were not allowed to advance beyond the traditional and almost sacred five cent limit. Investment in transit became unattractive as a result. It was a fateful coincidence of history that simultaneously with these developments the automobile was putting in an appearance in greater numbers. It was not long, therefore, before people discovered that they were not limited in the selection of an outlying home site to land within a half-mile of the end of the street car line. In regions of temperate winters they could use the automobile to serve their daily transportation needs in reaching both the city's core and crosstown locations. Thus it was that the first large scale dispersal of urban population began to take place. Although the motor bus had first put in an appearance in the Twenties as public transit's answer to the more flexibly moving passenger automobile, the trend away from public riding continued. The increasing number of vehicles on the roads necessitated traffic signals along major highways. These signal systems plus the ever increasing volume of automobiles slowed the movement of public transportation even further. During the Thirties the increasing pressure of traffic on the city's center and the resulting difficulties with parking began the now familiar trend of shopping decentralization. In a desperate effort to retain the patronage which they could not afford to follow, the street car lines introduced vastly improved equipment. However, due to the financing difficulties of the period and the rather restricted use of the new equipment, no noticeable effect was experienced in regaining lost trade. Although all public carriers enjoyed an upswing in business during the years of World War II, the old trend of decline resumed in 1946. Two other factors which further encouraged year round use of the private car during these decades were snow removal from city streets by the early Thirties and almost universal installation of car heaters by 1950.

Peculiarities of Transit Patronage. One of the principal difficulties of urban transit may be summed up by the terms

"peaks" and "valleys." The morning and evening traffic peaks of the urban community — the journey to and from work — are familiar to everyone. In terms of patronage most transit systems do very well at these periods of the day. In fact they are likely to do too well from the standpoint of overcrowded units of equipment or a supply of equipment which is insufficient for the rush period. During the other major periods of the day, mid-mornings, afternoons, and evening, empty seats dominate in each transit vehicle. Despite the thinness of business at these periods, peak hour equipment and operating personnel must be maintained by the operator. The basic difficulty on a daily operation basis seems to be that as the years go by the peaks of patronage grow higher and sharper, covering fewer hours, while the valleys become deeper and broader.[7] The implications of these conditions for the transit operator should be clear even to the lay observer. This, however, is not the end of the peak and valley headache. When the transit business is viewed on a weekly basis, somewhat the same situation is occurring. Shortening of the work week to five days has added Saturday to Sunday as a low earning point in the transit company's revenue week. The private automobile has taken over recreational transportation and family shopping, which now occur on the extra free day of the week. A similar phenomenon can be observed over the course of the year. In effect the greater number of paid holidays and lengthening vacations available to each working member of the population every year take further potential passenger fares from transit, diverting them to auto operation. In an attempt to counterbalance revenue reductions, the transit lines have raised fares, reduced schedule frequency during the lighter load hours, and eliminated low revenue extensions near the city periphery. All of these approaches have received a negative reaction from the riding public which has resulted in further diversion to auto use. Where revenues have fallen at very alarmingly rates, neglect of equipment maintenance has contributed to the move away from transit.

From what has been said thus far it must not be concluded that with the constant rise in auto use transit is about out of

the picture. If generalizations can be made at all in this field, it can be said quite safely that in communities where the central business area is of greatest importance to the metropolitan area as a whole, there public transit is strongest. For example, more than 90 per cent of peak hour travel is by common carrier in the New York area. This compares with transit peak travel of 78 per cent in Chicago. Even in the automobile dominated communities of Detroit and Los Angeles, transit accounts for a surprisingly high 50 per cent.[8]

Reverse Direction and Inter-suburban Travel. There are two other conditions of traffic movement, which have been developing in metropolitan areas, that have an important bearing on both the present and future of public transit as well as the general handling of city traffic. One of these conditions is what has been called reverse direction travel. This type of travel involves the journey to work from a home in the city to a suburban place of employment. In the New York area, where it has approached tremendous proportions, reverse travel now nearly equals traditional direction commuter traffic. The same phenomenon has been noted in other cities but has not been subjected to the same careful study as in New York. For public transit the significance of this development lies in the fact that the outbound traffic is moving toward highly dispersed points in the suburbs. Because of this dispersal the traveler cannot be taken care of by bus and much less by rail forms of transit. In fact, most suburban firms have chosen their locations on the assumption that their employees would use the private automobile. No technical analysis is needed to prove the rather obvious point that as outward radiating lines of transit increase both in number and length, the volume of patronage along any one line of movement becomes thinner and hence less and less feasible for profitable transit operation. One other observation on reverse direction travel which is self-evident but important is the fact that this type of movement is taken away from the harassing but still profitable traditional direction peak movements of transit.

As the modern metropolis continues its thinning and decentralizing trend, another form of traffic movement has evolved. This is called inter-suburban travel. As with reverse direction movements, this type of travel also is tied to the journey to work. It involves, as the term implies, movement from a home in the suburbs to a place of employment in the suburbs. For transit, business from this movement type is even more unattainable than the reverse direction patronage. Quite naturally, as manufacturing and some office activity groups continue to disperse along with a similar dispersal movement by practically all new single family and much apartment construction, this type of traffic flow is certain to increase at a rapid rate.

Another way of viewing the suburbanization trend and its effect on transit is to look at what is occurring to travel toward the CBD. Thus far the idea has been emphasized that movements toward a central point from a wide area of relatively high density are pretty much the preserve of transit, at least for moving people to work. However, as the city develops, at first rather thinly, in the suburban areas the strong tendency is toward the use of the private car, since transit is out of the question in such areas. Consequently, over time, the cumulative effect is for more and more automobile users to be added to the population. These users, moreover, will tend to employ their cars to reach the CBD. Hence one might conclude that the prognosis for transit patronage to the CBD is one of steady decline in terms of its share of the total number of people moving into the area. Most authorities feel that this decline will not only be proportional but also absolute.

The implication for transit of recreational and shopping travel by auto, reverse direction movements, and inter suburban travel has been summed up well in the statement that: " . . . The financial distress of the public transportation system stems less from their loss of downtown journey-to-work travel than from their loss of most (sic) everything else."[9] There is, moreover, the clear fact that demands on metropolitan areas for the development of ever more extensive highway systems are increasing. It is little wonder that the wails and sometimes shrieks that develop

from the growing pains of automobile use have all but drowned out the soft moans of the dying transit system.

Other Problems of Public Transit. Let us look next at a few more of the operational difficulties of public transit before moving on to more generalized questions of finance and community attitude. Take for example some of the other forms of competition which the auto gives to transit. Car pools, while they do not involve a highly significant percentage (usually less than 5 per cent) of the commuters moving from the edges of the city to its center, still represent that much more potential removed from transit. Pools have a natural way of increasing in numbers during transit shutdowns and then continuing after transit has resumed operations. In smaller cities the non-metered taxi has contributed its share to the transit headache. This type of vehicle, although frequently equipped with two-way radio, depends primarily on fares that can be picked up while cruising. It is customary to load the cab to capacity with unrelated passengers going to the same general section of the city. Passengers are delivered in geographical order rather than order of entering the cab. Central zone fares rise by 10- and 15-cent intervals, thus making the taxi less competitive with transit on a fare basis in the intermediate and outlying areas of the larger cities. The small city, particularly one with an inadequate transit system, may rely quite heavily on the non-metered zone cab for both the journey to work and central area shopping. Metered cabs are economical for middle distance hauls where the total fare is shared by the riders on somewhat the same principle as the car pool. While taxi licensing is usually closely controlled by city councils, there can be little doubt that the city-wide use of this transport form has gone beyond the original objective of incidental convenience and become a part of the public transit system itself.

Some quirks of human nature have added to the problems of the transit field. One commonly observable custom is for the transit rider, while waiting at his stop, to accept rides from passing motorists. Frequently a driver will clear the transit stop of the three or four persons waiting there. Transit riders who indulge in this hard-to-avoid custom are, of course, contributing

to their own undoing. Motorists, when questioned about their reasons for abandoning transit, frequently give the unreliability of service as their main objection. Upon closer questioning it will appear that they were in the habit of patronizing transit at off-peak hours and without previous consultation of a schedule. Many individuals now conceive of transit as a bad weather convenience or device to be used when the family automobile is unavailable. As multiple car ownership increases, as it is certain to do with accelerating suburbanization, rising real incomes, and the search for greater convenience, even these fringe uses of transit will gradually evaporate.

While the convenience factor of the automobile is the one most frequently emphasized when comparisons are being made with transit, there is no doubt that speed is a close second in importance. The traditional method of transit operation is one in which there are a great many stops at peak hours between the periphery and the center of the system, regardless of direction of movement. Clearly this slows down the progress of the trip at precisely that time of day when the desire is for speed. As has been frequently mentioned, the increasing volume of automobile traffic contributes to this transit slowdown. Consequently, the use of the private automobile is stimulated. With the automobile, intervening passenger stops are usually nil, speed within legal limits is individually determined, and, maneuverability in traffic is far greater than with the bulkier transit vehicle. It is nonetheless true that at peak hours close to the city's center the density of traffic may become so great that the premium of speed in the auto is meaningless. Therefore, speed must properly be measured in total trip time consumed. As the volume of traffic of all kinds increases, the volume of irritation and nervous strain on both the automobile driver and rider tends to rise. It should be pointed out that the slowness of public transit is a characteristic of bus and streetcar operation. Public transit vehicles which operate on their own rights of way, such as subways, elevated trains, railroads, and high speed lines, have much higher speed trip averages, sometimes higher than the automobiles. It is for this reason that they are usually classified as "rapid transit."

Relation of Community Planning to Transit Problems. Poor community planning is one of the more basic explanations for not only the difficulties of street transit but also metropolitan area traffic in general. A few examples will make the point. Wide spatial separation between place of residence and place of employment is perhaps the main creator of traffic of all kinds and particularly troublesome peak hour traffic. A specialized variety of this sort of cross hauling is particularly prominent in Chicago. In the central area of that city there are 245 truck terminals, which are scattered about in a highly indescriminate manner. This situation has been considered a primary factor in traffic congestion of the Loop. In New York, by way of contrast, the Manhattan Union Terminal has enabled one truck to perform services that required 2.25 vehicles prior to consolidation.[10] Improper zoning of outer belt lines has frequently resulted in a stringing out of commercial enterprises, which has swelled traffic volume and slowed its movement to such an extent that many radial streets which were to be relieved by the belt are again heavily patronized, to the particular detriment of transit. Railway lines at grade have not only tended to cut the city into uneconomic patterns at many points but have also contributed to the slowing down of street traffic flow by switching and slow freight movement over critical arterial crossings. Elevated trains, which appear to be on the way out in some urban areas, have restricted both speed of street traffic and street widening potential as a consequence of their ground level steel and concrete pillar supports. One final example of the impact of poor planning on traffic is to be found in the multiplicity of street plans which are developed and executed by the multitude of communities scattered throughout the metropolitan area. Lack of integration of street planning in this frontier area of the city proper logically leads to bottlenecks, wide gaps in control efficiency, and general confusion. This is not the immediate concern of the close-in street transit system, but as the central city expands these suburban communities are usually ingested into the system. Problems of movement which up until that time had affected the motorist alone under low density development conditions, now

hit both the motorist and transit operations. However, at this point the problem is compounded many times by increased density of use, which has far less chance of correction, from a financial point of view, because of the now greatly increased prevalance of structures lining the critical routes.

The Railroad Commuter. While railroads are not usually viewed as a part of the urban transit system, they carry significantly large numbers of passengers within the metropolitan areas of such cities as New York, Chicago, and Philadelphia. The difficulties in which these rail carriers find themselves have much the same causes as those associated with the rest of the transit field, but their effects are slightly different. Most frequently used examples of the rail commuter problem are the widely famed Long Island Railroad, the New Haven, Pennsylvania, and New York Central, focusing on New York City. Financially, the commuter business of these roads is a dead loss. For example, the New Haven is said to have lost $8,400,000 on New York commuters in 1959, the New York Central $4,500,000, and the Pennsylvania $10,000,000.[11] One way of putting this loss in perspective is to relate it to total passenger business. In recent years more than half of the 360 million people who ride trains each year are commuters. However, the commuters contribute only 20 per cent of all passenger fares. This relationship helps explain the fact that all passenger operations in the country have shown mounting deficits since World War II. The financial crisis brought on by the commuter portion of the business has been met in different ways. On lines where passengers are a small part of total traffic, the loss is absorbed. But on a line such as the now bankrupt New Haven, where passenger revenues make up 47 per cent of the total, indifference to losses is out of the question. The consequences of inadequate revenues for this line are the inevitable ones of erratic service, dirty cars, and broken seats. In a frantic effort to compensate for these financial nightmares, all lines have raised fares substantially. Even so, bargain basement priced transportation is possible on the New Haven, where the 19 mile ride from Manhattan to Larchmont is only fifty cents on a 46 ride commutation ticket. This compares with about $2.00

for the operation of the commuter's own car, not counting another one dollar average parking fee. An obvious question which will be raised at this point is, "why not raise the fares high enough to show a profit?" The answer to this lies in the reputation of railroad monopoly, which developed many years ago when monopoly was nearer to being a fact. At the present time the ghost of the past dogs the railroads in their appearances before the I.C.C. and state utility commissions when they plead for rate hikes. A dramatic example of this difficulty is found in the operation of the Long Island Railroad, the biggest commuter line in the country, which, in spite of many requests, was unable to obtain any rate increase whatsoever from 1918 to 1947! It might be argued that sizeable fare increases would only tend to divert more riders to their automobiles. However, in the New York area this does not seem to be the case. The Long Island increased fares four times between 1956 and 1960. The line never lost more than one percent of its riders after any one increase. Aside from fares there is the common transit problem of the four hour total peak. However, with the railroads the investment which must be carried at off-peak hours is much heavier because of more elaborate equipment and rights of way, which are not a part of the overhead of bus transit. Among the other peculiar problems of railroads not the least is that of property taxes. In many states every little town through which a railroad passes takes a shot at the "rich corporation." Apparently the states who do central assessing are not remiss at this game either. They will frequently assess railroad property at full value or even well in excess of value, while treating other property types more leniently. There is, moreover, the problem of outdated and overly complicated regulations. It is said to have taken the New York Central five years to gain permission to drop a commuter line which was losing $3,000,000 annually. Union rule difficulties are so familiar that explanatory comment is unnecessary. Capping this pile of woe is the often irate and unreasonable attitude of the rail commuter. He seems to feel that the railroads dislike him and as a result harass him with all variety of discomforts. This attitude is no doubt justified in those cases where a particular

railroad is working hard at the job of getting out of the passenger business. On the other hand, the irrationality of the commuting animal is highlighted by the wails of agony heard when an engineer new to a run stops his train in such a way that the coach doors are not at the exact point where the various clusters of waiting passengers are in the custom of standing.

A somewhat technical but highly important problem situation involving the commuter railroad is that of stub-end terminal stations. This inheritance of the nineteenth century is not only highly inefficient but prevents the rail commuter lines from becoming an integrated part of the free flow transit system of the city proper. Transportation experts point out that: "Through station tracks can handle at least four times as many trains and passengers per hour as stub-end-station tracks. In Chicago, for instance, forty-five multiple unit trains can be operated by the electrified Illinois Central suburban line to and from its stub-end terminal station at Randolph Street in a single rush hour. Since the station contains six stub-end tracks, this means an average of approximately seven trains per track hour. By way of comparison, the through State Street subway line of the Chicago Transit Authority averages thirty trains per track during a single rush hour . . ."[12]

Operation Costs: Transit v. Auto. While speed and convenience of the automobile are strong factors in the undermining of urban transit operation, it also appears that cost, once believed to be a monopoly advantage of transit, favors the private car. The reasoning behind this argument goes in the following manner: although new car operation cost is on the average 9 cents a mile, most people own used cars, which are driven at the cost of gas, oil, and repairs, which tend to average 2.5 cents a mile.[13] Compare this operation cost with a typical municipal bus fare of 17 cents over a two mile route. Clearly the bus at this distance is competitive with a new car but more than three times as costly as a used car. It will be argued that used car owners should take the acquisition cost of their vehicles into account when making comparisons with transit. Moreover, they should consider insurance and license fees.

But the fact of the matter is that they don't; they think only of marginal or out-of-pocket costs. It is on this basis that competition with transit takes place. Car owners may argue by way of justifying this seemingly irrational line of action that cars are bought for many other reasons than that of reaching work. Status, recreation, shopping, and emergency travel are among these other reasons and might be said to absorb the fixed costs. On the other hand, most motorists do not consider parking fees in their comparison with transit. While a ten mile round trip may cost 25 cents for car operation, the parking fee may be one dollar. But then the motorist will answer that by carrying a couple of extra passengers the per passenger cost is cut to a very low point. This last point is perhaps one of the strongest cost arguments that can be made for the automobile. As most people are aware, the average occupancy of the automobile in the journey-to-work trip is, in the typical city, 1.7 persons. Subsidies to the private automobile are not inconsiderable factors in giving the automobile a further advantage over transit. Segregation of tax dollars for open highway construction and improvement is a very obvious advantage to the automobile benefiting transit only incidentally. Use of valuable street space for dead, unmetered storage of automobiles is also a variety of subsidy. Many private businesses provide free off-street parking space at great expense but are never observed defraying the travel expenses of those customers who arrive by transit. Mention has already been made of the manner in which FHA and VA type financing subsidize the one car families at locations a great distance from transit, while making more difficult via higher down payments the purchase of older homes closer in, near transit lines and the CBD.

Financial Problems. Up to this point in the discussion no extended comment has appeared concerning the financial state of the more traditional and widespread forms of urban transit. In these more confined systems, which have no counterbalancing freight business, as do the railroads, the financial situation has gone beyond the crisis stage. Over the last decade the transit systems of Boston and New York suffered such heavy losses that they could obtain no further financial assistance from private

capital. As a consequence, the cities were forced to take over the job of management and deficit balancing.[14] These deficits were substantial; in the case of New York a mountainous $90 million in 1956, for Boston $8.3 million in the same year. Throughout the country transit companies, usually in the smaller cities, have been going out of business at the rate of about 100 per year. In Ann Arbor, Michigan, a city of 40,000, only three people in a hundred ride buses on the average weekday.[15] What this means in effect is that the buses are being used only by those too old, too young, or unable to drive for other reasons.

In commenting on the sad state of commuter rail operation, reference was made to the damaging attitudes of the I.C.C. and the state commissions. This same attitude is often expressed by cities toward the transit systems under their control. In large part municipal government has held to a negative relation in its dealings with transit companies. The general theory over the years has been that provision of transit is a business privilege, particularly in view of the fact that it is a monopoly. There is little evidence of the view that transit provides a service which is extremely vital to the whole community and should therefore be preserved and promoted. Protection of the public from financial abuse appears to constitute the principal function of city government in its relation to the transit lines. It is largely as a result of this philosophy that the public many times has assumed responsibility for transit only after it has been run into the depths of a financial morass and is struggling for survival in a seemingly hopeless manner. The ultimate economic pressure of this situation has finally brought home to the cities a realization of what transit means to them or, conversely, what urban circulation means without transit.

From the comments which have been made in this section of the chapter, it should now be possible to see in better perspective the many-sided problem which public transit has become. One general truth should have become clear; this is the idea of the relation of transit's troubles to the general problem of society's investment in public services. As economists and social observers have been observing with increasing frequency,

our American culture is tending to favor private consumption investment to the point of excess, while public investment in terms of schools, neighborhood conditioning, parks and open spaces is in a beggardly state. We begrudge all but the tax dollars that will provide acres of concrete for the unleashing of 200 horsepower and acres of black top that will provide these same voracious horses a commodious resting spot between races. What will this automania mean for our cities over the coming decades?

Implications of Traffic Laissez-Faire

In a free enterprise economy such as ours there is a strong tendency to give change free rein. This is particularly true where technological change is involved. The rate of obsolescence in mechanical devices is very high in most lines, not on a decade to decade but almost a year to year base. This is, undoubtedly, as it should be. Changes of this type have, for example, assisted greatly in the agricultural revolution, which has been one of the principal factors leading to the increasing rate of urbanization in this country. But with the automobile the case is almost unique. Here is a device which does not change substantially in its mechanical fundamentals from year to year but which involves more and more families of the country in a succession of economic investments and more particularly in a social experience which may be without parallel in the world's history. The psychological implications of this gadget are just beginning to be appreciated. It is almost trite to say that the automobile is a symbol of status, sex, and our aggressions. The most casual reader of the newspapers is aware of the fact that automobile production is one of the most substantial units in the foundation of our capital goods economy. On the other hand, here is a bit of technology which some fear will undermine not only the present physical form but also the financial security, and social stability of our cities. Insofar as change in city form is concerned, many changes attributed to the automobile, particularly those in the direction of lower density, may be all to the good. Yet there are disturbing questions, involving the nature of the transition to lower densities and attendant questions bearing on

abandonment or renewal of the old, more compact urban districts. It must not be forgotten that our cities in respect to their real estate alone represent the nation's largest single concentration of man made wealth. Therefore, the issue is this: as car ownership increases and other forms of urban transportation are pushed out of competition, are we content to face the consequences of this manifestation of free enterprise with its broad financial and social implications? This in turn raises the question of what the implications are. We can only guess at some of them, since auto use seems just beginning the phase of acceleration that started in the comparatively recent Twenties. The following paragraphs examine briefly a few of the general implications of auto use for the city and the impact on the city of some of the specific land forms used by the auto, such as freeways and parking areas.

Implications for Los Angeles and New York. Los Angeles is often taken as the classic example of the effect of the automobile on the modern growing metropolis. Here is a case in which the automobile has run wild. A pathological dependence on the device has literally shattered the city until it resembles the nova or exploded star of astronomical fame. Although Los Angeles had an efficient high speed electric transit system for a number of years, this was driven out of business by the rising tide of the automobile. One factor which in a sense makes Los Angeles a poor prototype for the future of other American cities is the fact that in its exceedingly rapid evolution no clearly identifiable core developed. The automobile was, of course, the main influence preventing this core from being born. The current product is a heterogeneous collection of intermeshed settlements with no strong sense of community or ability to focus on the gigantic problems of the largest single aggregation of urban acreage the world has ever seen. In spite of the rather atypical character of Los Angeles, there are many disturbing portents in its continued growth. Other American cities are following the lead of Los Angeles at a substantially slower tempo. They are not facing up to the crucial issue of how much auto travel they should encourage by the provision of expressways

and off-street parking facilities. City administrations are drifting, allowing themselves to be guided by the very considerable political pressures employed by auto users, highway contractors, high voltage officials, generous Federal and State grants, plus their own lack of ability or inclination to reach a decision that may be wise but unpopular.

More specifically, the outlines of this growing problem of auto use can be seen in what has occurred in the New York area. Breese points out that: "As the result of the building of three vehicular crossings of the Hudson River and connecting radial expressways which feed them, since 1930 the number of automobiles entering Manhattan from New Jersey daily has increased about 60 percent, while the total number of persons who live in New Jersey and work in New York has increased by only about 4 percent."[16] The effect of 100 per cent automobile operation on the core of the city is almost unbelievable. Again using New York as the sample area, studies indicate that on an average business day three and a half million persons enter the southern Manhattan area. Assuming that half of this number came by car with the rather high average of two persons per car, ten square miles of parking space and a doubling of bridge, tunnel, and arterial capacity would be required. If *all* of the three and a half million came by car it would be necessary to erect five story parking garages, covering all of the blocks of Manhattan south of 52nd street.[17] The multiple impact of a situation such as this staggers the imagination. It would not be difficult to compute the effects of varying percentages of auto use on much smaller cities as transit continues to fade.

Another implication of the continuing extension of auto use in major cities involves the urban fringe areas. As dispersion of urban populations continues under the impetus imparted by the automobile, there is an increasing tendency for informal green belts and major recreational areas to be invaded by low density home development, or to be crisscrossed by multiple, car-clogged expressways. Even some of the major parkway systems, such as the Westchester and Bronx River Parkways, are suffering gradual attrition of their linear park areas as existing lanes are widened

and new lanes added under mounting pressures of automobile use.

Impact of Freeways. The idea has been expressed before in this chapter that freeways represent a quick fuse that can lead to both the dispersion and the destruction of the central city. To repeat, this comes about as the result of three situations: (1) the inundation of the antiquated street system at the core end of the expressways, (2) the encouragement of even more automobile traffic, and (3) the stimulation of more suburbanization, which can be served efficiently only by the automobile. Clearly these conditions are closely related. One develops from the other. As automobile traffic multiplies, the freeway system is almost certain to grow along with it, usually lagging by not more than two or three years with each substantial change in traffic volume.[18] If the automobile is to spawn freeways without restraint, what may they do to cities? Under present techniques of design, routing, and installation what are the likely consequences?

Consequences of unrestrained freeway construction can take several forms, some good, others bad.

(1) The structure of the central business district may be damaged. What is called the "frame" or periphery area of the CBD is inhabited very largely by firms with "external linkages" or customer and business contacts outward and beyond the core. Freeway routes and interchanges, particularly, will tend to alter these linkages substantially as large quantities of central area land are removed from structure use. Moreover, the freeway-interchange pattern will tend by its placement to sever homogeneous associated business clusters in this same frame. It is possible, however, that inner ring freeways by contrast with the radial types will increase the convenience of the frame for warehousing, wholesaling, and service industries.[19]

(2) It is often argued in favor of radial expressways that establishing broad insulating bands will provide a framework for desirable cellular neighborhood redevelopment. However, facts seem to contradict this belief. More often than not, freeways fail to have their planning integrated with renewal of urban neighborhoods. The results may be odd area shapes, which are

both uneconomic and socially unbalanced. Blighting effects of the freeway on adjacent neighborhoods is a strong possibility where proper buffering is absent.

(3) Associated with the objection just made is the additional fact that freeway installation often results in the bisecting of some sound neighborhoods, the clearance or moving of thousands of structures, and the displacement of even more families. It is, of course, true that in the clearance process slum areas will be reduced in size. But even so the freeway program is not always selective since it hits both the good and the bad.

(4) While freeway systems may under some types of planning introduce "fingers" of trees, grass, and shrubs deep into a few parts of the city, these rarely reach where they are most needed, near the center. Greenery of this variety is not meant for active, physical enjoyment and may play only a minor role in counteracting the gaseous fumes and confusion produced on the highway proper.

(5) Finally, the freeway systems are creating a suburbia so dispersed that even the high speed convenience of the auto is taxed. Dormitory communities, which as a consequence are spattered over the landscape, become the expression of city building so inadequate that local government financial crisis is constantly staring across the barbecue pit at the emancipated urban worker and his family.

That we are dealing with a force almost beyond our comprehension now seems abundantly clear. In the hyper-benchmark, Los Angeles, traffic continues to outstrip the most rapid pace the roadbuilders can set. When the Hollywood Freeway was opened in 1954 it was designed for an *ultimate* volume of 100,000 vehicles per day. In *one* year it was carrying 168,000 vehicles per day.[20] Freeway cost is another disturbing matter. Averages within urban areas run $1.4 million per mile for a four-lane freeway. When eight lanes or more are built the average reaches $7.8 million per mile. On the Interstate System the six-lane sections cost $12.5 million per mile in the highest 10 per cent bracket of costs. To date the prize winner seems to be the one

mile of freeway entering the heart of Boston at a fancy $50 million.

Planners in trying to conceive what it would mean to go all the way for the automobile in Los Angeles recognized the fact that two-thirds of the downtown was already given over to freeways, streets, and parking areas. The most radical proposal that was offered was one which had the freeways "knifing through" the downtown area on elevated highways at selected block intervals. These elevated extensions of the freeway system would be fed into combination structures of offices and multi-level garages built around the freeways. Later third and fourth tiers of highways might be erected and attached to the office-garage structures. With this type of desk-side parking the ground level street would eventually be left to the pedestrian. The cost of this conception was not even guessed.[21] Two-level streets are already a reality but they do not relieve congestion because of lack of integration with the rest of the traffic system. In any event, providing multi-level streets and garage space for the entire traffic of even one large city would run into billions—the bill to be paid by the convenience-minded motorist.

There are those who maintain that the small city need not worry over the displacement of elaborate and valuable transit systems by the automobile. This is true for the reason that most cities have not grown sufficiently large to support more than a bus system. However, from the arguments that have been pursued thus far in this chapter it is clear that automobile use at present tends to increase as the size of the city declines. We might conclude from this that with automobile use in the aggregate increasing at an almost astronomical rate, the chances for transit surviving or even making a beginning in many of the smaller cities of this country are very slim. Perhaps, therefore, as these smaller urban centers develop over the next two decades, they can see their future in the disturbing image of Los Angeles.

Approaches to the Dilemma

In the present state of knowledge and experience there is no "solution" to the mounting problem of urban traffic and

transit. It is for this reason that we can speak only of "approaches." However, there is a good chance that among these approaches or some combination of them lies the answer. The pages which follow are aimed at offering an all too brief summary of the basic considerations with which we are confronted and the better proposals for meeting the resulting problems of urban structure that go along with the traffic and transit question.

Land Use Planning. Among the basic considerations bearing on this broad question the most important is that of land uses and their arrangement within the community. It is very possible that solutions to our particular traffic woes do not lie in the direction of providing additional transportation capacity but in the direction of developing urban communities in which satisfactory, efficient transportation is possible. Our present method of "fire fighting" or of meeting whatever demands may spring up here and there in a highly disorganized manner appear to be failures. Los Angeles is only the most extreme case of this type of frantic expediency. In meeting traffic demand the principal hope lies in some control or channeling of demand. Otherwise we will continue to be led and dominated by traffic instead of manipulating it to our own ends. Land use planning offers the best chance for mastery of the situation through carefully conceived and flexible general community plans, implemented by progressive zoning ordinances, subdivision regulations, and urban renewal proposals. Comment has been made earlier on the fact that "functionally related but geographically separated activities," particularly separation of employment and housing, contribute most seriously to traffic congestion. If central shopping districts are to be adequately supported, high income and middle income residential neighborhoods must be encouraged, through urban renewal, close to the core instead of in the suburban periphery. Such a use reallocation would stimulate walking and patronizing of public transit. Extremes of density, as found in central area office districts, are developing in some cities to such a degree that provision of an adequate transport system to service them becomes almost impossible, not to mention the excessive difficulty of even pedestrian movement. Land

uses which do not conform to the zoning of their districts throughout the city are yet other feeders of congestion and disrupters of efficient traffic flow. Means must be found to speed their elimination. These are some of the more important land use relations to which immediate consideration must be given. If applied, the result of rational replanning of land use would be at least twofold; necessary trips would be fewer and shorter; the maximum use of more efficient forms of transportation would be encouraged, particularly in central areas. The question of high business space densities at the centers of our cities seems to be a controversial one. Some maintain that the density should be reduced, others argue that the density is an expression of need for close proximity in the efficient prosecution of certain types of business ventures. If the latter view is the more sound, as it seems to be, then unlimited use of the private automobile is completely impossible and mass transit is the only answer, at least for this segment of the city. So acute has the problem become in some central areas that serious consideration is being given to outlawing the private automobile from downtown districts altogether. Elimination of street parking and high cost off-street parking are strong indications of a trend in this direction. In effect, the central area under this approach would be open only to transit, service vehicles, and pedestrians. A further objective of the rearrangement of land uses would be to increase the possibility for more walking and hence less driving within the separate business and residential districts of the city. Recent central area design plans tend to give the pedestrian increasing prominence as wheel-traffic movements are discouraged.

Transit Efficiency. Since so many pleas are raised by the experts in the cause of transit, it is appropriate to examine for a moment the basis for the alleged efficiency of this form of movement. Data on the comparative efficiency of auto and transit are such common coin that their importance apparently has been forgotten. Consider, for example, the fact that *one* modern street transit vehicle, such as a bus, can carry the average passenger equivalent of a solid block (one side) of private automobiles.[22] Rail rapid transit is even more efficient. The ordinary surface bus or

streetcar used in the comparison just made has a *top* of 450 seat-miles per hour, whereas the rail form of transit produces a *minimum* of 1,850 seat miles per hour. Coming back to the question of bus efficiency, a study made by the Cleveland City Planning Commission showed that on an average weekday 370,000 people entered the downtown area between 7:00 a.m. and 7:00 p.m. Of this number nearly 200,000, 54 per cent, arrived in only 5,000 transit vehicles, no one of which needed downtown parking space. The balance arrived in a caravan of more than 121,000 autos and trucks. In spite of the American fetish for efficiency in business, there is apparently no perceptible carry-over to the process of moving people.

In our careless outpouring of attention and dollars in behalf of the automobile owner we not only harm the non-car owner but, at the same time, tend to strangle the owner himself in the resulting congestion.[23] American cities are finally coming to the realization that what they need is a complete transportation plan. The technicians describe such a plan as "integration"—exactly the opposite of the single focus system which is working so poorly in most cities. Put in very simple terms, an integrated or balanced system is one which uses *the* form or *combination* of forms of movement which is most efficient in a particular geographical, land use, and density situation. A generalized example of such integration might be a three-zone approach in which the downtown area would be served by transit only; intermediate areas of the city would involve a combination of auto and transit; the low density suburbs would remain the domain of the motor car. A more specific and restricted example of integration is to be observed in the Congress Street Expressway which extends west from the heart of downtown Chicago. It provides for high speed electric transit service between the in and out-bound auto lanes. In Philadelphia the Mayor's Urban Traffic and Transportation Board made a report in 1955 which concluded that " . . . the only logical solution to the conditions surrounding the metropolitan areas was the establishment of what they called 'A metropolitan Regional

Organization' that would have jurisdiction over all forms of passenger transportation, both in and out of the city, including the expenditures for highways, and including the type, quantity, and quality of mass transportation service that would be provided. They also proposed that in the provision of the necessary freeways that would come into and out of the city . . . there would be toll charges provided so that the available funds, plus the toll charges, plus such additional taxes as might be levied in the area would be sufficient to continue the total integrated passenger service operations within the metropolitan area of Philadelphia."[24] As urbanization and suburbanization continue to expand, a growing volume of passenger movement between suburban places of residence and suburban places of work must be expected. Over time, some of these routes of travel may well develop densities warranting public transit. This will be particularly true if new industrial development tends to cluster rather than disperse. A tendency toward the development of industrial parks or subdivisions seems to point strongly toward the increase of such clustering. This will tend to lessen dependence on the automobile in the outer zones and ease the task of providing highways and parking. It is felt, moreover, that intelligently planned expressways, and particularly their interchanges, can help in discouraging wide dispersal of industrial plants. What we have been guilty of thus far is undue concentration on the supply side of the whole urban transportation question. It is also true that each sector of the urban transportation field is being operated and discussed in a vacuum. When we talk about parking we disregard transit; when the troubles of transit are up for analysis we concentrate perfectly, letting no extraneous transport subjects into the debate; if expressways are the text for the evening, even parking and outlet highways are unworthy of simultaneous attention. We have, in short, no conception of the relative roles of the various forms of movement with which we are dealing. Yet disregard of these relations can lead to urban confusion, economic loss, and frustration, which will make present hardships in retrospect seem like the Golden Age.

Specific Transit Proposals

1. *Ownership and Finance.* With an almost constant year to year decline in the successful operation of private transit, increasing consideration is being given to public ownership throughout the country. The approach is not new to the larger cities, such as New York and Chicago. But in others it is interpreted as a rather radical move, with abandonment almost a preferable alternative. What then is the case that can be made for public ownership of, for example, a municipal bus system? If bus operation is viewed as a utility function as vital to the modern city as its sewer or water system, then we must begin to think in terms not of profit but of a sustaining service that will help the community to function in a healthy efficient manner. This may well mean operation at a financial loss. Such loss would be absorbed by the community and when distributed over thousands of taxpayers would not represent a heavy *per capita* burden. We are at present, absorbing staggering expenditures which principally benefit the auto. Consider for a moment the mountainous community bill for street-widening, freeways, unmetered parking lots, and police patrol, which is absorbed without complaint by drivers and non-drivers alike. Is it not possible that the book loss reported for municipal bus operation might be more than made up by only slightly lessened automobile-directed expenditures? Tax savings of no inconsiderable amount would be made by exemption from payment of state and federal income and gasoline taxes. Since ownership would be public there would be no need to earn a fixed return on the investment. A portion of annual earnings from municipal utilities is customarily allotted to the general city budget to compensate for property taxes which are not formally levied on the operation. From an operational point of view there would be more direct control over fares without the lengthy and expensive petitions for rate change necessary where private operation is involved. Then too the municipal system would be more responsive to requests for changes in service particularly when it came to a question of extending its lines to the thinly populated neighborhoods at the edges of the city.[25]

A variation of public ownership which has good possibilities is the leasing to private operators of public trackage and vehicles with the public as lessor, stipulating the quality of service to be maintained and the approximate fare range to be charged. Private rapid transit and railroad trackage might also be made available at a charge to publicly owned and operated vehicles or without charge to publicly owned vehicles operated by the private company employees.

Since finance is a perennial problem of transit, a proposal has been made to extend the principle of the minimum charge for service to private operators. All other utilities (gas, electricity, water) both public and private within the city collect a minimum or base charge. This is necessary in order to carry the fixed investment base regardless of use. Hence transit must come to the same system if it is to maintain financial solvency. Justification for such a charge is based on the idea that all property owners, commercial and industrial as well as residential, are benefited by transit. Unlike other utilities, however, the charge would have to be collected periodically, since no equivalent of service disconnection would be possible. As currently conceived the charge would take the form of a property assessment. Those paying the charge, presumably property owners, would receive a transit pass entitling them to pay only a nominal cash fare.

2. *Operational Approaches.* It is frequently argued that transit companies should practice a little elementary economics in setting their fare charges. The point is made that reduction in price increases consumption and, thereby, net return. However, experiments with this approach have proved that, apparently, the demand for transit service is rather inelastic in both directions on the price scale. In New Orleans the transit fare has been a phenomenally low seven cents for many years as a consequence of a subsidy from the electric company that runs the lines. In spite of this the volume of transit business continues to decrease. Then there is the more universal example of transit employees who, though they ride free, still use their own cars.

Staggering of work hours may possess some benefits for both

the transit companies and their riders. During World War II, as a consequence of restrictions on private automobile operation, public transit systems were subjected to such intensive use that hour staggering became necessary in order to provide riding room for all patrons. This system worked very well. In peacetime application it would of course also tend to flatten the peaks of transit operation, making for more economic operation by reducing demand for equipment and personnel. Reduction of traffic congestion resulting from the staggering would quicken the flow of transit making its use more attractive to the riding public. Development of such a program would encounter the objection of employee convenience. However, this obstacle could, no doubt, be gradually overcome.

Express service on bus lines is an innovation which has met with fair success in many cities. Under this technique employee buses start from outlying points at peak morning hours and make non-stop runs to the center of the city. Similar return runs are made during the later afternoon peak. Off peak hours may be used for the shoppers' express. Not only is trip speed increased, but the start-stop irritations of travel are eliminated. Shuttle buses between intermediate city parking areas and the center frequently operate in the same manner. Shuttles operating within the CBD were referred to in the chapter on that topic. Club buses on express schedules from suburbs to the city charging charter rates are still in the try-out stage. The club bus depends for its origination upon special solicitation of a group or groups of suburban customers by the transit company. While this technique may not produce any appreciable volume of business, it should cut into car-pool competition and advertise the virtues of transit in the most hostile of territories.

Success of express transit service depends in large part on the ability of communities to provide exclusive traffic lanes for transit vehicles. With special lane treatment, express bus speed can exceed that of the automobile, although it is still slower than rapid transit. A variation of the idea of the special transit lane is the transit street, which may be better as an expediting device. One final characteristic of successful express service is

direct routing. As this term may imply, the more circuitous and time consuming routing of local buses is replaced under the plan by the most direct and, therefore, most rapid route to the destination.

Exclusive lane or street routing involves another more generalized principle, which has application not only to the difficulties of transit but all urban traffic. This is the principle of traffic separation. There seems to be complete agreement among traffic experts that lack of separation or segregation is one of the principal conditions leading to the present slowing, confusion, and danger of traffic flow. We must, in our cities, strive for three types of separation:

(1) On highway systems, separation of through from local traffic, and separation of passenger automobiles from trucks, and both of these from transit.

(2) Grade separation of conflicting street arterials carrying heavy volumes of rapidly moving traffic, also grade or center strip separation of rail rapid transit from all forms of highway traffic, including street cars.[26]

(3) Separation of pedestrians from the traffic of both principal and local streets by means of central area plazas, over and underpasses, and super residence blocks with interior walk systems.

Commuter railroads are usually identified with the transit systems of only the larger cities. However, smaller cities and metropolitan areas should give serious consideration to the preservation of key portions of their railroad nets. When such cities have grown to much greater size they will find the rail lines an invaluable asset in developing a more complex and efficient transit system. Neglect in the present can lead to rapid abandonment of rights-of-way that might cost millions to clear of structures and place in operating condition once again a decade or more in the future.[27] Urgency for conversion of standard railroad operation to commuter transit service in urban areas may be even greater than is currently believed in view of the continuing suburban trend which city growth has assumed. Among proposals for either keeping the railroads in the com-

muter business or luring them back to it, as the case may be, are the following: (1) increased fares combined with improved equipment and service, (2) issuance of transfers to the city's transit system, (3) diversion of freeway traffic tolls to construction of tubes and bridges for rail systems, (4) cooperation rather than competition between rapid transit and commuter railways, (5) elimination of obsolete stub-end railway terminals in favor of a metropolitan railway network that will operate under the principle of continuous flow, involving unification of tracks and stations,[28] (6) electrification under low cost high-voltage AC systems which produce high speeds and low costs of operation and maintenance when compared with those of diesel power, (7) encouragement of freight business.

Realization of a majority of the above improvements, particularly (3) and (5), will also help toward the more efficient movement of local freight and mail, now handled almost exclusively by truck.

Suspended monorail cars may hold some promise for the future. Although in successful use in Germany for many years, their widescale adoption for urban rapid transit use in this country is still in the debate stage. Technologically they are about in the same indecisive position as the helicopter, relative to their influence on the movement of large masses of people. They must not, however, be wholly counted out of contention in our striving toward a solution of the transit problem within the next decade or so.[29]

Conclusions

The dilemma of the traffic and transit mess is well summed up by C. McKim Norton when he says:

"Until we make up our minds about what kind of cities we want to live in and design our transportation system to serve the indicated needs, transportation will continue to be the master of our urban environment . . . The *means* of metropolitan expansion too often determine the end result."[30] By others we are told that "the degree to which private transportation and transit should be encouraged and aided is one of the most critical

questions facing municipalities and their officials today. Cities may be broken financially if they do not find a solution to their transportation problems . . . On the other hand solutions . . . might also bankrupt urban areas."[31] The extent of our panic and indecision is well demonstrated by the case of San Francisco. When the octopus tentacles of a gigantic freeway system began to squeeze both beauty and cash out of the queen city of the Western Hemisphere, the voters demanded that construction be suspended. Stub ends of a few projects stand as dramatic evidence of the revolution against a policy of drift in matters of urban transport. To consummate this unprecedented show of anger, the same voters backed the formation of the Bay Area Rapid Transit District, which has progressed far in its studies to set up a regional network of 70 mile per hour train operation that should be serving customers by 1965.

The technology of traffic is only one element in the explosively expanding field of mechanical change. It appears that in general we are being guided by, rather than guiding, the application of these devices. We are stupified by the speed of their arrival and their power of impact. While our most serious dereliction in this respect is atomic power and chemical rocket propulsion, certainly the private automobile in terms of its broad economic and social effects runs a close second. If the cultural characteristics which we now prize in the modern city are to be preserved, we must be masters of our technological tools, and of our environment. But first, as Norton has suggested, we must plan the arrangement of the city's various use sectors in a way which will give that result. The *plans* must determine the forms and patterns of traffic circulation and not the reverse.

NOTES

1. Gerald Breese and Dorothy E. Whiteman (editors), *An Approach to Urban Planning*. Chapter 5, "Metropolitan Transportation" by C. McKim Norton, Princeton University Press, Princeton, New Jersey, 1953, pp. 90-91.
2. Lewis Mumford, *From the Ground Up*, Harcourt, Brace and Company, New York, 1956 (See series "The Roaring Traffic's Boom"), p. 207.
3. Urban Land Institute, *Crowded Streets*, Technical Bulletin No. 26, Washington, D. C., June 1955, p. 10.
4. Wilfred Owens, *The Metropolitan Transportation Problem*, The Brookings Institution, Washington, D. C., 1956, p. 32. (The percentages quoted have been raised slightly to compensate for the time gap between 1956 and the present.)
5. *Ibid.*, p. 35. Between 1940 and 1955 traffic volumes on city streets were up by an impressive 69 per cent.
6. Urban Land Institute, *The New Highways: Challenge to the Metropolitan Region*, Technical Bulletin 31, Washington, D. C., November 1957, p. 29.
7. "The peak lasts but an hour or so in the morning and a little less in the afternoon, perhaps altogether less than four hours a day. . . ." Urban Land Institute, Tech. Bull., No. 31, *op. cit.*, p. 47.
8. *Ibid.*
9. *Ibid.*
10. Wilfred Owen, *op. cit.*, *p.* 118.
11. "Modern Living. Those Rush-Hour Blues," *Time*, Time, Inc., New York, Jan. 18, 1960, p. 76.
12. Stanley Berge, "How Commuters Can Have Their Trains," *The Atlantic*, New York, May 1960.
13. Wilfred Owen, *op., cit.*, p. 118.
14. "Crises in City Transit," *Architectural Forum*, Time, Inc. New York, June 1957.
15. William R. McConschie, "Freeways Can Save Urban Transit," *Urban Land*, Vol. 16, No. 8, Washington, D. C., September, 1957.
16. Gerald Breese, *op. cit.*, p. 89.
17. *Ibid.*, p. 87.
18. It may be argued that the freeway is also open to transit and should simultaneously help this form along with the auto. But it must be kept in mind that the freeway is designed primarily for the auto, while the frequent stopping and starting of the average transit run is not appropriate to this type of highway construction.

19. Edgar M. Horwood and Ronald R. Boyce, *Studies of the Central Business District and Urban Freeway Development*, University of Washington Press, Seattle, 1959, p. 126.
20. Wilfred Owen, *op. cit.*, p. 35.
21. "Sick Transit: The City's No. 1 Problem," *Architectural Forum*, Time, Inc., New York, January 1959, pp. 121-122.
22. In rush hours the average number of persons per auto is 1.5. The modern transit vehicle can seat 45 to 50 passengers. Urban Land Institute, Bulletin #26, p. 10.
23. We must keep in mind the fact that all members of a car-owning family do not have equal access to the vehicle. This is particularly true when the car is driven to work by the head of the household.
24. Urban Land Institute, Bulletin #31, p. 22.
25. Wilfred Owen, *op. cit.*, p. 125. Owen reports that in 1955 transit was publicly owned, in part or whole, in 43 cities in the United States. Transit authorities are operating in New York, Chicago and Boston.
26. Occasionally street cars are given the center parkway strip position between multiple highway lanes.
27. "Railroading After Hours with Jim Lyne," *Railway Age*, Simmons-Boardman Publishing Corp., New York, January 22, 1962.
28. Continuous flow can be achieved by means of tunnels connecting the terminal stub-ends as in Brussels and Madrid. The French are contemplating a similar adjustment in Paris. See Stanley Berge, *op. cit.*
29. Moving sidewalks are another technologic possibility of the future. However, their use would be largely confined to downtown districts and other points of heavy pedestrian concentration.
30. G. Breese and D. Whitman (editors), *op. cit.*, p. 83.
31. Urban Land Institute, Bulletin #26, pp. 55-56.

5

City-Suburban Frictions

Introduction

Within the last forty years of our national history the physical dispersal of the city has become a highly familiar phenomenon. We have witnessed a revolutionary change not only in the form of our cities but also in our urban ways of living. When change takes place on such a large scale and at a pace which is so intensive, there are bound to be resulting frictions. As a consequence, although we apprehend what is happening, we do not comprehend how we can best adjust to these explosive changes. The give and take of argument over the relationship of the central city and its surrounding metropolitan area is becoming hotter. It is certain that the intensive wave of urbanization which is anticipated between 1960 and 1975 will aggravate the conflict in these relations even more. This is likely because the heaviest proportion of the anticipated settlement wave will wash over outlying sectors of metropolitan areas, fertilizing their growth even more. What growth occurs in the central city will be by means of natural increase and annexation rather than net inmigration.

While problems of adjustment between the core city and the suburbs are extensive and impressive, there are rather specific problem areas which seem to contain in them the meat of the human relations and financial sides of the dilemma. One of the topics or areas of controversy that will be examined in this chapter is concerned with the charge frequently made by central city officials and residents that the suburbs are "parasites." The rebuttal of the suburbs to this charge is of great importance

in providing perspective on this particular question of attitudes. Closely associated with the argument on parasitism is the even more contentious issue of annexation and finances. It is in connection with proposals and petitions for such actions that animosities of the participants boil to the surface with such vigor that the prospects for cool deliberation of issues become extremely faint. Moreover, the seeds of discord which are sown at such times frequently block the chance of further cooperative development of the metropolitan area for many years in the future.

Suburbs as Parasites: The City View

In charging that the suburbs are acting as parasites, the central city often introduces arguments of a rather generalized nature. One of these, which can serve as an introduction to more specific accusations, is the proposition that the metropolitan area is *one* community and should act as such in handling problems and public services which are common to the community. Because of this common basis of interests, so argues the city, it is artificial and unrealistic to think of the metropolitan area as being composed of a myriad of municipal and township sovereignties, each working toward its own individual ends with no regard for the welfare of any one of the others.

What is the basis in reality for a "one world" view of the metropolitan area? The fact that the U. S. Bureau of the Census created metropolitan districts in connection with its tabulations and resulting studies is of major significance. It is not enough to say that the metropolitan designation is a statistical conception or convenience. It is an acknowledgment that a single community is under study. Some of the criteria used by the Bureau in delimiting an area are strongly indicative of the common interests which bind the separate parts. For example, there are determinants based on density of population, propinquity of concentrations of population, location of employment, frequency of telephone and social contact, focal points of shopping and the like. Other observers and students of the metropolis have suggested yet another means of establishing the fact of

metropolitan-wide interest. One of these criteria is the radius of daily contact, regardless of purpose, but with the job contact holding the position of major importance. In other words, if we work in one community and live in another, it is reasonable to attribute a close interrelation to these communities, assuming, of course, that the number of commuter job exchanges is of significant size. In a majority of instances the volume of commuter job movement is greatest from the suburb to the city. Hence, concludes the city dweller, the suburbanite is dependent on the main urban center for his very livelihood. Not only is the central city the focus of employment opportunities for a highly numerous suburban family but is, as well, the center for entertainment and communications. The newspaper, radio, and television programs which originate in the core city are patronized most heavily by and mold most deeply those who live in what are loosely called the suburbs. It is easy to see from what has been said thus far that the limits of the metropolis are very vague. In some cases the boundaries of influence are at a great distance from the core. But when the city argues about the "suburban parasite," it is, apparently, referring to metropolitan communities rather close to its boundaries. Which ones are to be included in the criticism may be determined partly by utility rates. For example, the point at which telephone rates change from local to long distance could be taken as the outer boundary. Communities in which more than 50 per cent of the labor force works in the central city might similarly be included. There would be no doubt of inclusion in those cases where the suburb is completely surrounded by the city or where the suburb lacks a separate post office designation and carries the same general address as that of the central community.

Among the arguments against parasitism are interspersed severe outright criticisms of the philosophy of separatism pursued by the suburbs and the implications of the behavior which results. In general terms this separatist argument maintains that the suburbs are the expression of an irresponsible, escapist psychology. When central city conditions become difficult in terms of taxes, neighbors, and aesthetics the potential suburb-

anite, instead of facing the problems along with the rest of the citizenry, escapes to the suburbs where he can set up a Utopia closer to his own standards. However, the objectionable central city can still be tolerated for the job opportunity that makes the rolling lawns and select neighborhoods of "subtopia" possible. And, of course, the city has occasional use for entertainment and cultural stimulation. Otherwise it is to be shunned. There is, moreover, a small matter of democratic practice involved here. A great many suburbanites are in the high and upper middle income brackets. This income status is increasingly linked to class status. Thus, the suburbanite and, particularly, his children are able to avoid mixing with less well-to-do groups among the metropolitan population. In this manner political and geographic exclusiveness are compounded by an accentuated social exclusiveness for which the central city dweller may have another and less complimentary name.

It is hard to see how this separatism can be justified by the suburbanite. Can't it be argued with substantial validity that a suburb is much like a city ward? Certainly the central city would not have attained its present status of leadership, size, and efficiency if all of its periphery wards were independent municipalities. So it can be claimed that the new city form will lose substantially in its effectiveness if the periphery suburbs continue to live upon the host city and refuse to admit their identity with it.

As might be expected, taxes play a prominent role in this battle of opinions. Suburbanites establish what have come to be called "tax colonies." A tax colony may be defined as a suburb which functions as an exclusive tax district, embracing a high volume of taxable values in contrast to a comparatively low volume of service demands or expenditures. There are at least two varieties of suburban tax colonies. One, and probably the most common, is the high income residential suburb, where taxable property values and personal incomes are high. When a centrally collected and distributed state income tax is in force, the remissions to the suburb are sometimes so high that the property tax is substantially lowered or even eliminated.

The other colony type is the industrial suburb. Here the residential values and property owner incomes are usually middle to low in level, but the effects may be the same as in the other case because of the high concentration of value in factory buildings and equipment, and in state corporate tax returns. It is the claim of the central city that the values and incomes involved in both tax colony areas are created by the *combined* efforts of the metropolitan area and in particular by the presence of the core city. Therefore, fiscal advantages should not be coveted by any one favored segment of the metropolitan community to the detriment of the rest.

Colonization confers another type of fiscal advantage on the suburb in that the jurisdiction can easily avoid what might be termed the "deficit charges" involved in the usual operation of municipal government. At least in the exclusive, high income residential suburb it is possible to avoid all tax responsibility for local welfare costs and for support of low value neighborhoods in which taxable values do not even begin to compensate for services rendered. Many low income or low-middle income suburbs suffer even more than the central city from the practice of colonization. This arises from the fact that such disadvantaged suburbs not only have periodically high welfare costs but also, and more significantly, lack commercial and industrial property values to counterbalance their low value residential property in meeting what may be higher than average service charges.

Suburbs frequently counter the argument on tax colonization and segregation by pointing to their substantial contributions to the county tax, which is generally supposed to be paid out in the support of metropolitan area services. While this may be true enough it is also a fact that splitting up the metropolitan area into many separate tax jurisdictions has led to a patchwork of assessment levels for similar type properties. It is quite impossible for the tax equalization process to compensate for all of these differences. As a consequence, some suburban jurisdictions are likely to get off rather lightly in their payments of even the county tax.

It is probably clear from what has been said that the protest of the central city against the suburbs is based very largely on financial worries. As higher income families move from the central city or as inmigrating families of this economic group settle in the suburbs, total property values in the core tend to decline. This decline comes about as a result of physical deterioration and a low volume of new construction, particularly in the non-residential high tax earnings categories. Tax delinquency will tend to rise largely as a result of rising vacancies and the low income status of residual residents of and new migrants to the central city. Not only will the property value base tend to wear away, but the local share of state income taxes returned will decline even more rapidly. This situation forces the main city to seek out such revenue alternatives as the sales tax, utility, and hotel tax. These, together with the higher rates that may be required on general property, will accelerate both deterioration as well as outmigration. Inevitably the quality and quantity of public services will be adversely affected. Many suburbanites may merely shrug their shoulders at these eventualities. Others may find some perverse enjoyment in watching Rome burn. What they do not seem to realize is that their own economic and cultural welfare is supplying the fuel for this social catastrophe. If municipal services of the central city decline too far, if the environment in which the main economic activities operate deteriorates beyond hope of repair while tax costs soar, the economic base of the metropolitan area itself will be undermined. Nor is this a problem of factories alone. More particularly the professional and retail businesses so characteristically operated by the suburbanite may be the most vulnerable to decaying surroundings of any of the economic categories in the central community. Nor is the answer to be found in complete decentralization of these activities. While some may disperse and continue to operate with as great or greater efficiency than before, others will either suffer a sharp drop in profits or may have to go out of business entirely because of their dependence on a closely clustered central location.

Concern of the central city with suburbanization is focused

not only on economic implications but also those of a social nature. Of particular significance in this connection is the familiar fact that a very large proportion of the people of the community with ability and influence are moving away from the center. As a result they are not available for membership on local government commissions, where leadership and original ideas are so sorely needed. Although they may be eligible for membership in purely civic organizations, they are usually disinclined to serve because of the wide separation, both physical and political, between their homes and the customary central meeting places of such civic groups. In spite of the fact that the prominent citizens of the metropolitan area may be dispersed among a number of exclusive suburbs, some of their abilities will be devoted to strengthening the village or area in which they live. If their local loyalty is very great, the result of their civic activity will often take the form of even more intensified opposition toward the central city which gives them their living. Suburban advocates of cooperation with the mother city are the conspicuous exception.

In addition to these specific accusations of parasitism and separatism, there are even more concrete and frequently encountered disagreements which plague city-suburban relations. Most prominent among these nearly daily arguments is that involving responsibility for service costs. City officials claim that the suburbs are using certain central services to excess without payment, or, at best, they are making only a token contribution. For example, the suburbanite is a heavy user of the automobile, frequently abstaining almost completely in some metropolitan areas from the use of public transit. Because of the heavy suburban-generated to and fro movement of traffic, the city is forced to widen streets, install expressways, and expend large sums in the cleaning and repair of these traffic corridors. Some of this work would be required in any event, but the suburbs add substantially to the load and in many instances contribute the marginal increments of traffic that force the purchase of numerous pieces of maintenance equipment, the hiring of extra personnel, and the installation of more elaborate

traffic control devices. Another significant element of cost in the handling of large volumes of wheel traffic is police supervision. By far the heaviest proportion of modern day police department budgets in major cities is devoted directly or indirectly to the guiding of traffic. Some of the detail of police work which is often not thought of in this connection is associated with the tracing of stolen and abandoned cars, the elaborate reporting required in connection with traffic accidents, as well as the problem of moving vehicles parked for excessive periods or those which obstruct snow removal operations.

Separate comment is appropriate on the subject of transit. Inasmuch as the suburbanite is contributing so heavily to the volume of urban traffic, it is inevitable that bus transit will be slowed in its movement. This will contribute to the increasing diversion of trade from transit, thus weakening and perhaps killing vital transit operation in the city proper. If, therefore, transit must ultimately have subsidy to continue operation, is it not logical to expect some assistance from the suburbanite who materially contributes to its difficulties?

The financing of parking structures and lots constitutes another problem. Where the municipality has formed a parking utility with bonding powers, parking installations are financed by means of revenue bonds. The bonds are paid off by collections from meters. However, some lots do not have meters and may in some communities be a non-reimbursed public expense. Street parking is also divided between free and metered areas. In the free areas, space is open to competition between the city driver and the more numerous vehicles of the suburbanite, with the result often going against the urbanite. In both the metered and un-metered street parking areas, the presence of standing vehicles or vehicles in the process of parking contributes to the slowing of traffic flow and thus the general lowering of circulatory efficiency in the city. One final item concerning traffic cost which is not usually included in the debate is the influence of traffic on property values. Here the argument is that the heavy and constant movement of suburban-originated traffic through the central city contributes to the decline of many

residential and certain types of commercial values. These values are, naturally, of great importance to the city tax base as well as to the individual city owners and investors involved. But again the suburbanite cannot be held accountable for the damage which he creates.

City park systems represent another bone of contention in the unending debate on suburban service cost responsibility. Suburbanites find the major city parks a source of delight and use them extensively. Unlike some parts of the automobile parking program no fees are customarily imposed for use of parks. Where the city has a zoo the capital investment in the system can become rather large while operation and maintenance, logically, becomes a significant annual budget item. An additional source of irritation for the city arises out of the fact that, very often, parks in suburbs are operated by private associations and, as a consequence, are not freely available to city residents who live near them. Parks which are owned and managed by the urban county are not of this type and are free to all.

Public buildings are in a category of uses comparable to that of parks. These buildings are available to users free or at a very nominal fee. Included in this group are museums, auditoriums, art galleries, legitimate public theaters, and club meeting room facilities. While theater and concert performances may often have entrance fees, these are intended to cover overhead expense of the performance itself rather than the capital investment and a major portion of the maintenance expense for the building. Club meeting rooms may be restricted to city organizations, but suburbanite membership in these organizations is frequently high. Moreover, the higher educational level of the suburbanite suggests a much heavier proportional use of general cultural facilities than would be expected from the central city population.

In some metropolitan areas the central city and suburbs share the frontage of a lake system. State legislation often gives patrol, cleaning, and inspection jurisdiction to the principal city. However, in some cases the suburbs do not participate in

the costs of this obligation beyond inadequate contributions from boat fee registration revenues. This situation prevails in spite of the fact that their suburban desirability is very materially supported by the presence of the lakes. A thorough study of service charges to suburbs, in one case revealed other situations such as the one just mentioned, in which the suburbs were failing in whole or part to carry their proportionate share of costs. These are cited here because they are considered to be fairly representative. By way of further example, the city in this same case feels that it is not receiving payments adequate to balance costs in connection with suburban use of city secondary schools. In the 1955-1956 school year there were an estimated 530 non-residents enrolled in the city's public high schools.[1] This was the smallest number of non-residents enrolled since World War II. Decline of outside enrollments was explained in part by substantial annexations to the city and in part by the organization of a high school district in one of the suburban villages. The city high schools are required to accept tuition students "when facilities will warrant" according to state law. Tuition charged these non-residents is based upon four different cost factors:

1. Operating costs.
2. A 2% charge on buildings and equipment put in place before 1945.
3. A 5% charge on buildings and equipment built since 1945.
4. Interest paid on high school bonds.

This formula was not introduced until 1951 before which time the non-resident enrollment was much higher, between 900-1600, and the dollar losses were therefore quite heavy. It is the feeling of the city school officials that the State tuition formula is inadquate in several respects. The pre-1945 allowance of 2 per cent is too low. No charge is allowed for the acquisition and improvement of sites. An accounting lag permits tuition to be paid at the end of the school year, while the city supplies general tax money to pay current costs of operation. At the present time, when state aids for non-residents are added in, the city receives an amount about equal to its per pupil costs.

As a consequence of the conflict over service charges, the increasing load put on city high school facilities by annexations, and a rising birth rate, the city involved in this case has told the suburbs that starting in 1961 it cannot accept more tuition pupils. In retaliation or as a means of protection, the dominant suburban and rural votes in the state legislature passed a law in 1959 which would attach all areas with high school age children to an existing high school district by 1962.[2] This means, in effect, that the cities of the state would be forced to accept suburban high school students and that the city school district boundaries would expand to include such areas. Applications of this legislation will mean that school taxes for the suburbs will tend to decline relatively in most cases, while those for the central city tax payer will rise as a consequence of greater expenditures for plant and staff.[3] Cities in the state point out that this legislation allows the suburbs to expand their "cafeteria" habits of selecting only those services which they want or need, without annexing and participating on a fully responsible basis in the financing of full-scale urban services.

State legislation has, in a similar manner, placed the city under study at a disadvantage in connection with the operation of its vocational and adult education program. Non residents admitted to the Vocational and Adult School come primarily from the metropolitan county and in the 1955-1956 school year represented 16 per cent of the total enrollment. One shortcoming of the tuition arrangement is a ceiling of $1.50 for each evening of actual attendance. The school has charged at the ceiling for a number of years. Another weakness is that tuition fees do not apply to all non-residents. No charge whatsoever is made to apprentices. For practical nurse trainees a portion of the course is without charge. In the school year cited it was found that the net cost to or deficit incurred by the city for the operation of this school was $145,206.

Another example of service charge deficit is found in the case of the city free library. When the study was made it was found that as of January 1, 1957 there were 344 non-residents holding active library cards. Most of the non-resident cards

were held by persons in the four major villages adjoining the city. Librarians reported that although the number of non-resident cards was small, the use rate was about four times higher than for a city card. Although the non-resident card fee is $4 it was estimated that the per card cost of operation in 1957 would be $7.41. The net cost or deficit resulting from the extension of library services to non-residents would approximate $8,800 for the year.

Investigation of water charges and water distribution services to the same city's suburbs revealed that as much as 10 per cent of the total pumpage is distributed by the city beyond its boundaries. Volume sales to suburban governmental utilities are made at a rate identical to that charged heavy volume users, such as manufacturing plants, within the city. For individual suburban users of water the city charges 125 per cent of the resident rate. The city utility does not lose money under this arrangement. Here, however, is another example of suburban dependence. It is highly probable that suburban communities and certainly individuals buying water from the city could not independently provide the same quality of service at as low a unit cost.

One aspect of the suburban "cafeteria" approach, which is not frequently emphasized, involves the effect of this picking and choosing on the welfare of the metropolitan area as a whole. For example, the decision of one or several suburbs against financing weed control, swamp drainage, or water pollution programs can easily bring nuisance conditions to other suburbs and to the central city. Conceivably, lack of participation in a metropolitan program of garbage and sewage disposal may lead to serious public health problems for the other members in the settlement of communities. It is also possible that the fight for suburban independence can lead to promiscuous and unscientific well drilling, that can so seriously lower the local water table that, again, all the area will suffer.

There is an interesting but dangerous inconsistency in the position of many suburban villages and cities, which is both an outgrowth of parasitism and is made possible by it. This is

the policy of expansion by annexation. It is not unusual for an unincorporated suburban area to become a village on the grounds that it wishes to remain small and exclusive. By means of incorporation it can both prevent annexation by the city and can control the nature of unincorporated suburban growth for a limited distance beyond its borders. The noble purposes expressed at the beginning of corporate life are likely to dissolve as the little community grows in density and as the complexity of its problems multiply. An increasing need to feed the growing urban organism with nutritious tax revenues may well lead to a relaxation of zoning laws in order to obtain higher property tax payers, such as apartments, commercial and even manufacturing on a small scale. But the more flagrant inconsistency develops in connection with active annexation programs pursued by these suburbs, which are frequently encouraged by the adjoining unincorporated developments. Ultimately the suburb arrives at a growth stage in which it also begins to suffer from parasitical relations with surrounding settlements and then starts to make the same complaints, though on a lesser scale, as the central city. The absurdity and social inefficiency of this situation is patent.

Suburbs as Parasites: The Suburban View

The views of the suburbanite emphasize the idea that the suburbs make substantial contributions of various kinds to the city and are, in fact, greatly needed by the city for continuous effective functioning.

The suburbanite in his own eyes is of great importance to the economic welfare of the central city. In most situations the ownership or managerial control of the major business establishments of the central city are in the hands of persons who live in suburban areas. Dominance of control from this area touches the retail, manufacturing, and particularly professional segments of the central economy. It is of particular importance to stress the fact that most of the control of the economic *base* enterprises of the entire metropolitan area rests with the suburbanite. Earlier chapters in this book have stressed the signifi-

cance of the economic base to an urban community. It will, therefore, suffice to state here that the base enterprises are those which export goods and services of the community in exchange with the outside world. They, in effect, earn the community income with which outside goods and services may be purchased. A multiplier effect exists between export and local economic activity. As the intensity of base activity rises or falls, the impulse is carried through the rest of the economic community, which, in chain reaction fashion, responds to the lead of the base. It is not difficult to understand, therefore, why managerial decisions bearing on this part of the urban economy are so significant. One of the most important multiplier effects stimulated by the economic base is, of course, employment. Therefore, we may conclude that in a great many metropolitan areas a high proportion of jobs in both the central city and suburbs is dependent on the entrepreneurial and management know-how of suburbanites.

A more specific argument employed by the suburbanite to emphasize his indispensability is his provision of specialized services to the metropolitan community at large. This line of reasoning points out that it is the suburbanite who provides the professional talents, other than business, that are so vital to the operation of modern urban society. The principal concentration of legal and medical practitioners that serve the city is found in the suburbs. Here also are located the top communications men of advertising, public relations, radio, television, book and newspaper publishing. In spite of rumors to the contrary not all of this genus live in exurbia. In university communities even a few of the instructional staff can afford the rarified atmosphere of the "urban gardens."

The most jingoistic suburbanite will not claim that his type of community is occupied exclusively by top brass aristocrats. He will bring to your attention, however, that the suburbs represent a vital labor pool of technical and clerical skills on which the city proper is also highly dependent. The expanding frontier of America's rapidly rising middle class is to be found here. This class is the backbone of a private enterprise

economy. From yet another point of view it can be effectively maintained that the suburbs are a basic influence in attracting critical labor force to the community and holding it. Open space and sound neighborhood planning, combined with prestige, low taxes, and high quality schools are what is required today to lure top grade labor force in a competitive labor market. It must, moreover, be kept in mind that as more and more industry moves to suburban locations, the focus of job opportunity becomes less and less oriented to the city proper. This is another way of saying that the suburbs are, increasingly, becoming a job market for the central city worker, making the city economically dependent on the suburb instead of the reverse. While to date this line of reasoning applies principally to manufacturing, a definite trend to the suburbs has also been noted among certain types of offices.

Tax relations between city and suburb add strength to the argument against parasitism. Take, for example, the subject of property taxes. Is it not true that the suburbanite who is the owner of a central area enterprise, a factory, for example, pays a heavy real estate tax to the city and in addition a substantial personal property tax, when it exists, on machinery, furniture and fixtures, finished goods, goods in process, and raw material at the plant? Is it not true, in additon, that nearly all of these economic operations, commercial and industrial, are profit rather than deficit taxpayers and, for that reason, are highly prized by central area government for political as well as purely fiscal reasons? Nor is this the whole story on tax advantages contributed by suburbs to the central area. Where state corporation taxes are levied, and this is the case in a majority of states, the local share is remitted to the city. These corporate tax remissions are very substantial and should more than compensate for the loss of individual income tax remissions going to suburbs, where the personal incomes of management are reported. In this same connection, many suburbanite proprietors who operate commercial establishments (particularly in the CBD) may do so under lease. Rental receipts of a substantial size go therefore to investors who may have central city residence. State and

even city income taxes on these earnings go in large part into the city's coffers. Large scale commercial enterprises generate, in addition, a significant volume of sales tax fees, which, when the tax is local, are also designated for the city treasury. As a rule the suburbanite will overlook a fairly effective argument in his armory, that involving the disposition of federal income taxes. Heavy federal income taxes levied on the high earnings and revenues of individuals in the wealthier suburbs are too frequently considered to be largely lost for central city purposes. However, very large loans and grants made by the federal government, drawing on these suburban personal as well as corporate incomes, go to the central cities. The forms which these federal allocations take are familiar. Highway, hospital, and airport assistance are most frequently encountered. Urban renewal assistance is, of course, taking a more prominent place in central city budgets, a phenomenon made possible by substantial federal subsidy. Suburban federal income taxes also contribute significantly to the financing and operation of many federal agencies within the city. Some of these, like a large army installation, are a part of the economic base, while others, like the postoffice, contribute to the local or service end of the central city's economy. It is possible, of course, to find close parallels to many of these federal aids at the state level. Certainly this is true of highways and schools in most states. Welfare is a booming state operation, which is directed in very large part toward the dense central population clusters in the low to middle income brackets. The point is that much of the wealth collected in taxes from the suburbs by the state and federal governments is funneled back into the central cities in amazingly large amounts.

Trade area patronage is well known to be the economic life-blood of the retail, professional, and entertainment portions of the central city economy. Although the bulk of trade given to businesses in these categories originates locally, it is often the margin of "outside" trade which may build up profits most rapidly. Suburbs play a highly important role in this trade area or "outside" volume. On the one hand it is probably true that

the *per capita* purchases of this group are higher than either those of the average city patron or the customer who comes to the city from outside the suburban belt. There are at least three general reasons for this suburban value-of-purchase dominance. In the first place, average family income throughout the metropolitan trade area reaches its peak in the suburbs. Suburban families, moreover, usually represent high spending units because they are large and young. Finally, the relatively close proximity of the suburbs to the CBD and intermediate shopping areas results in a greater frequency of patronage. Frequency is, of course, strengthened by the more extensive ownership of automobiles in the suburbs in the form of two-car families. While the rapid development of suburban shopping centers has weakened this argument to some extent, it is still valid for the intermediate and large sized cities of this country.

General economic benefits accruing to the central city from the suburbs take yet another form which is of importance in this discussion. The typical suburb is residental in character. As already mentoned, residental districts are, as a rule, and in varying degrees, deficit taxpayers. If these districts are single family in nature, the deficit is quite marked. Suburbs are, of course, primarily single family in composition. By way of exception it should be pointed out that very high value residences, about $35-40,000, may break even from a tax and service point of view. However, the majority of suburbs, at the present time, are not at this relatively high average value level. The point of this comment is that the suburbs, by remaining independent and operating in separate tax districts, remove this deficit from the shoulders of the city. Moreover, it seems to be true that as the city becomes less the focal point of residential life it will, if only by default, be left with the more profitable tax paying uses to bolster its treasury. Another aspect of this same point of view concerns the nature of services demanded by the suburbanite. We are told that the suburban dweller, because of his educational background, his class aspirations, and position in the family cycle with its resulting orientation toward the child, has rather high standards and beliefs regarding certain municipal

services. The services most heavily emphasized by him are usually schools and recreational programs at both the child and adult level. School expense represents one of the most significant portions of the tax dollar. When, therefore, school quality is built up well above the average and is supplemented by a better than average recreational program, the resulting burden of property tax is certain to be heavy. Are not suburbs, therefore, saving the city taxpayer from the high extra costs which his demands for high quality schools and special programs would necessarily create?

A general line of reasoning closely related to the one just pursued bears on the question of economic health of the central city from yet another direction. It can logically be maintained that the movement of middle and upper income groups to the suburbs frees space for inmigrants of a lower income category. Not only is housing space released by this out-movement but school space as well. A parallel case might even be made for the release of park space and shopping facilities that would otherwise be seriously overcrowded. If inmigration were to take place without counter-balancing outmigration, the city would have to make substantial additions to such public facilities as schools. The most serious problem would arise, of course, in connection with the fitting of additional population into the existing housing stock. In the short run, many structural conversions would take place to accommodate the influx; building and housing codes would be widely violated; the general condition of the housing stock in many city neighborhoods would decline. The hardship of rent increases would be imposed on inmigrant and native tenants alike, while sale prices to the inmigrants would skyrocket. Outmigration to the suburbs removes these pressures and their anti-social consequences. Housing market analysts would say that the situation which is created by outmigration is one of filtering. In other words, because of a reduction of demand pressure, rents and prices decline, making housing stock of an originally higher value available to lower income groups. Effects of these population movements on the central city economy are perhaps obvious. Availability of hous-

ing units and units of adequate size and suitable price are vital to the city's continuing ability to attract a labor force that can man its expanding industries.

In emphasizing the extensive degree of dependence of the suburbs, the central city will often point out that the residents of the central city usually outnumber the combined population of the suburbs by a substantial proportion. Is it not presumptuous, therefore, for the suburbanite to maintain an aloof posture, which in some situations may even suggest a tail-wagging-the-dog relation? By way of rebuttal the suburbs maintain that it is inevitable under present rates of growth that the periphery population will outnumber that of the core city. It will be rather difficult to maintain that the suburbs are parasites when this new size relationship eventually evolves. Moreover, as has been mentioned before in this chapter, rapidly expanding commercial and industrial developments located in the suburbs show every indication of ultimately competing in employment, output, and value of product with those of the core city. These combined conditions will contribute to a total of taxable property values and incomes that will outweigh those at the center. Hence, this new maturing urban form at the periphery must be given every chance to grow in the most effective way possible. It is, in fact, in the self interest of the central city to contribute as much as it can to the arrival of the day when its role is that of partner, and perhaps a minor partner, in the production of a modern pattern of urban living.

Switching for a moment from the economic emphasis, let us look briefly at other types of considerations in the debate. Suburbanites are, as stated earlier, among the principal patrons of the cultural life of the central city. Art galleries, museums, libraries, theaters all receive private contributions from persons of wealth in the suburbs. Many of these institutions are not tax supported and are dependent upon private endowment. Some are on a divided basis of financial operation drawing on taxes, fees, and private contributions for their support. Not only are the suburbanites influential in the financing aspects of urban culture but they are also prominent in its promotion. They take

the lead in the arrangement of programs, selection of artists and works of art, and in the conduct of membership drives. It might even be maintained that because of their high social position they attract by power of emulation large numbers of the city population to attendance and ultimate patronage of cultural programs. Suburbanites pay the same admission fees as everyone else. The cultural range and force of a city is a highly important ingredient of its way of life. A city can exist without culture of this type, but it will, as a result, be a dull city and never a great one. As the amount of leisure time increases and as cultural activities begin to appeal to a larger proportion of the population, the competitive significance among cities of this aspect of urban living becomes more apparent.

As might be expected, the more obvious points of friction between the suburbanite and the central city resident arise over matters which involve payment for rather specific services that can be measured in terms of a fee. These differences are to be distinguished from service disagreements that have no recognized or standard measure. Such items as use of streets, policing services and use of public buildings are pertinent examples. In meeting this criticism of the central city, the suburbanite maintains that he is in a relationship to the city very much like that of the general trade area patron or the tourist. Is it not true, he inquires, that the city warmly welcomes tourists and general trade area customers for the business that they will bring and for the good word in the form of verbal advertising that they will carry back to fellow neighbors in their home communities? Certainly the city fathers would not dream of levying special taxes on this golden goose as a means of defraying the expenses incurred in creating that business. When parking meters were first introduced it was the city merchant who protested most vociferously over the anticipated dampening of trade. Farmers were not many decibels behind in the strength of their complaints. If a community is concerned over the stimulation of exports it is unlikely to devise ways in which to make the tourist pay—for business sales, yes, but not for some sort of levy approaching a tax. Otherwise the tourist

will pass on to the next town and local trade along with advertising potential will decline. Why then, asks the suburbanite, should he be placed in a different category? Does he not come from an independent outside community just like the others? Isn't his trade, as a matter of fact, steadier and in larger annual amounts? It would appear, therefore, that the suburbanite ought, realistically, to receive the most preferred treatment of all. By way of clinching his argument he will point out that when the city resident goes for a drive and in the process patronizes a suburban shopping center or a rural village market in his metropolitan area, the residents of these districts welcome him and are not worried over the fact that their roads are being subjected to wear or that their police force is being unduly harried. To the suburban resident the whole argument of responsibility to the city seems completely inconsistent and irrational in that it does not recognize the nature of relations that must necessarily exist within a free, interdependent economy.

For a heavy majority of the services which are obtained from the city the suburbs pay not only cost but, in some cases, a substantial amount in addition. Some concrete examples from the Madison study will help to make this point. Death for the suburban resident is more expensive than for his city neighbor. The largest cemetery in the metropolitan county is Forest Hills, which is situated within the Madison city limits and is operated at a slight loss by that municipality. Residents are required to pay $70.00 for a grave opening as compared to $100.00 levied on out-of-city residents. The municipal airport and three city golf courses charge fees which are the same for both residents and non-residents. Two of the more exclusive suburbs have private membership golf clubs, in which the initiation and annual fees are at a level which make them prohibitive for the average middle income group. However, these clubs offer to city residents prestige memberships, at a price, which are not adequately supplied by the one private club within the city limits. Charges for water service were mentioned at an earlier point in the chapter. However, it is appropriate to repeat here the fact that bulk users, both inside and outside the city,

pay at the same rate, while individual non-resident users pay 25 per cent in excess of the resident rate. Where the City Water Department is engaged in sales of water to outside bulk users such as suburban governmental utilities, the meter or meters are sold by the Department to the utility. The cost of meters to the suburban utility ranges from $33 for a ⅝ inch meter to $1,664 for a 6 inch meter. These charges include a 25 per cent mark-up over cost. It is the practice of the Madison Water Department to assess charges for fire protection in addition to those for water consumption and equipment purchase and repair. These fire assessments are calculated on the number of meters in each community on December 31 of the preceding year and are billed quarterly in advance to the suburban governmental units. It is of particular interest to the Madison area suburbanite to know that, although his own local water utility may pay the same consumption rate as city bulk users, the billing to him will sometimes be higher. For example, while the minimum quarterly service charge for Madison users is $1, one incorporated suburb rebills at $3.50 and one unincorporated district charges its customers $5. Fire protection rebillings are also increased but usually by no more than twice. The purpose for some of the inflation of the basic charge can be understood from what has been said concerning suburban operating cost levels. However, the point at issue here is that it would be difficult to convince a suburbanite that he was not paying more than his way for one of the more vital services obtained from the city.

In many instances the city may claim that the fees charged the suburbs are not adeqeuate to cover total expenses. Fees are in many cases based only upon labor time, transportation, supervision, and supplies. No attempt may be made by the city to calculate into the charge such costs as management expenses, overhead, and depreciation on city-owned equipment. If this is actually the case, argue the suburbs, why doesn't the city charge a sufficient amount and stop complaining. While some fee advances would have to have the sanction of state law, many are determined entirely by the city. Insofar as parking,

streets, police patrolling, and court costs are concerned, the suburban resident believes that he suffers and bleeds sufficiently as a result of feeding omnivorous city parking meters and paying his share of the fines (unless perhaps his social influence may lighten the load here somewhat). Furthermore isn't it a fact that the suburbanite as a heavy per family user of automobiles is contributing substantial sums in state and federal gasoline taxes as well as state registration fees? No one will disagree with the statement that many of these suburban dollars find their way into city street and expressway construction.

By way of concluding this series of views of the suburbs toward the city's accusation of parasitism, consideration should be given to a few administrative-political matters. Suburban officials correctly point out that many of the costs which the city feels would be shared are very difficult to determine as long as the political jurisdictions remain independent. It is easy enough to share responsibility under the fee system for such operations as golf courses and cemeteries, but what about such vague problem areas as drainage, weed control, parks, and street maintenance? The non-resident feels that if he finally consents to sit down with city officials to determine cost shares, he will be overloaded because of very rough estimating by the city of expenditures that cannot easily be cut into equitable sections. There will be a tendency on the part of the city to set share rates that will pick up some of the slack of past years. Again the question arises of how far, geographically, this sharing is to extend. With small cities should the cost sharing area include just the townships adjoining the city; with cities of greater metropolitan stature should the ring of adjoining counties be set as the outer limit of responsibility? In the absence of general agreement as to the standards of sharing that will give answers to such questions as these, the suburbs feel that great inequities are certain to result. Finally, there is the suspicion on the part of non-residents that city officials are many times only trying either to strengthen their political machines or save their political lives by getting suburban support for central city tax burdens.

The Annexation Question

Another bitter source of friction between city and suburb is the question of annexation. It might be thought that when annexation actually takes place the parties being annexed and those doing the annexing must be satisfied or the legal steps necessary to the action would not have been consummated. Unfortunately the matter is not that simple. Dissidents involved in an annexation action and their arguments are legion. Within the annexed area some 49 per cent of the electors may be opposed to the idea of joining the city. Suburban residents not involved in the annexation may be vociferously opposed because they see the advancing tide of the city threatening their semi-rural way of life. While they can't participate directly in the petition signing, they may attend hearings and express their views. Suburban officials are understandably disturbed. Townships officials see their vital tax base being whittled away. Village officials are alarmed at the removal of territory that they might want to annex some day, as well as by the implications of being completely surrounded by the city. Township and village attorneys in some areas, are as a consequence, employed full time in combating annexation actions. From the city's point of view, annexed territory is in many cases felt to be a desperate necessity in order to gain assessed valuation, to compensate for the inequities of parasitism, and to prevent engulfment by the suburbs. From a broader point of view, annexation can be considered as one means by which different forces are attempting to attain a single government for metropolitan areas in order to assure governmental financial stability, and to guarantee uniform quality of public services. But annexation is a hit or miss blunderbus technique in the hands of most city administrators. It cuts to ribbons many unincorporated suburban jurisdictions, the greater part of which would prefer a prolonged existence independent of the city. As stated, it stimulates unhealthy fears and animosities between city and suburbs, as well as between the confirmed suburbanite and his dissatisfied brother. Despite these objections, annexation is a fact of life. It is one that must

be faced as a social and economic problem characteristic of our present stage of urban evolution. The pages that follow present a summary of some of the arguments on both sides of the question. A balanced comparison of views may provide the improved perspective so greatly needed in the years ahead, which are sure to witness one of the great waves of urbanization in our history.

Recent History of Annexation

Annexation activity in this country, which had become relatively dormant during the Twenties and Thirties, took on new life immediately following the Second World War. By 1954 six times as many cities of more than 10,000 people had gained territory by annexation as had carried out such actions in the period from 1935-1939.[4] In the main, annexations have been small in size and have involved unincorporated areas. An exception to this trend is to be found in Texas, where the macro scale of living is reflected in the eighty square mile annexations engineered by Dallas, Houston, and San Antonio.[5] Other examples of large annexations between 1948 and 1954 include Milwaukee 20 square miles; Atlanta 82; Kansas City, Missouri 67; San Diego 22; Tampa 46; and Madison, Wisconsin 11 square miles. States in which annexation is most frequent are Texas, Virginia, and California. The process is virtually impossible in New England since the towns which surround the major cities have the sovereignty of incorporations. Major cities which are in a position similar to that of New England cities because of encirclement by incorporated suburbs are New York, Minneapolis, and Philadelphia.

City Views Favoring Annexation

Since it is frequently the case that cities encourage and promote annexation actions, it is logical to expect a fairly impressive number of reasons favoring the move. Those which follow are representative.

(1) An increase in the total of taxable property is one of the strong reasons for promoting annexation. This is particularly

true in those cases where no major expansion in capital improvements is required, such as the construction of fire stations, schools, or park buildings and equipment. Expansion in the value base of the city will, of course, expand its debt limit, which then becomes available for financing future public works. Increase in child population will also build up the city's total of state educational aids. In those instances where higher value residential, commercial, or industrial property is annexed, the value gain per acre is considerable. As a result, the rest of the community may find its property tax stabilized or, in rare cases, reduced by the addition of this type of property to the tax base.

(2) As argued at length in preceding pages, the problem of parasitism, at least as it relates to the area annexed, is eliminated. Once the suburb becomes a part of the city it will participate in all the expense burdens of the city on the same basis as all other city areas. No problems of apportionment of responsibility are involved. With a decrease in these buried costs, again, a stabilization or even reduction of property tax burdens of the city will be possible. Of course, the larger and more valuable the annexation the greater the chance for these favorable consequences. The city has been at war with certain county service practices since the beginning of suburbanization. One of these which is eliminated by annexation, is the system whereby a county provides urban-type services to unincorporated areas without making additional charges. This, from the city's point of view, is straight subsidy for the suburbs since the city usually contributes more to the county treasury than all other communities in the county combined.

(3) All state-shared taxes which had heretofore been distributed to the annexed suburb will now go to the city. Exclusive residential suburbs or high profit industrial properties will again, as with the property tax, be expected to return the most sizeable income tax shares to the city.

(4) Protection is often another of the objectives of the central city in promoting annexation. Protection takes several forms, only three of which will be noted here. Prevention of encirclement is a form of protection. By encirclement is meant

the complete enclosure of the central city boundaries by small incorporated suburbs. Almost without exception, state laws prevent the annexation of such incorporations against the will of the governmental unit. It is also impossible for any portions of such an incorporation to be annexed. This means, therefore, that once the enclosure is complete the central city is powerless to make further additions to its legal territory except with the cooperation of one of these boundary cities. Negative consequences of this sort of strangulation are numerous. By way of example, it becomes gradually more difficult and ultimately impossible to add new single family residential areas to the central community. New residential space must, therefore, increasingly, take the form of apartment buildings, which, over the years, are constructed to house more and more families per acre. The way in which single family residence space becomes available is by clearance rather than by the development of open land. However, as a result of excessively high acquisition cost for this land, detached single family space is uneconomic and new, low density housing must take row and town house form. By this constricted form of evolution the city loses its ability to hold a heavy majority of the upper middle and high income families. Only at great expense can it overcome single family neighborhood obsolescence, which seems to have become exceptionally swift in recent years. Conversely the more expandable suburbs are able to provide spacious detached housing and shopping á la mode, thus out competing in housing terms the relatively helpless city.

Somewhat the same argument can be made for industry. Unfortunately for the old core cities, the new technology of industry demands land-consuming single story structures. Thus the city can't meet a rising demand for industrial space in the same way that it did an upward demand shift for residential space, by building higher structures and smaller dwelling units. If the city cannot expand laterally, therefore, it can't obtain the vital acreage needed for industrial additions to its tax base. Moreover, vacancies are likely to increase in many of the outmoded industrial loft structures of the old city because of the

city's inability to grow and compete in its environment. Clearance and renewal may be a partial solution to the dilemma of industry, just as it is for residence use. However, the cost of land and, in this case, the volume of acreage needed for modern plant construction are the critical limiting factors.

By way of summarizing the political objectives of the foregoing protection arguments, it can be said that annexation is resorted to in the encirclement struggle to prevent two types of consequences;

(a) The independent incorporation of an unincorporated area, which may thus completely close the incorporation ring surrounding a city or may close it in a strategic direction of movement;

(b) The annexation of unincorporated lands by a suburb, which might lead to the same consequences as those mentioned in (a).

The protection philosophy of annexation takes a second general form in those actions of the city which are aimed at saving an area (and ultimately the city itself) from the consequences of bad planning. It is for this reason that the city feels itself justified in annexing, open land by petition. By so doing it may be in a stronger position to guide not only the basic planning of the land and street system but also the zoning and building codes, which are intended to guide evolving uses. For similar reasons the city may wish to annex suburban areas that are in an early stage of development and, although showing signs of a quick downhill slide, are still in a salvable state. While such areas may be a short term liability to the city, they could turn out to be a permanent liability if annexation were postponed. Bollens puts this idea well when he says that the cities ". . . have eliminated havens for vice and gambling and wiped out fire hazards that had existed at the pre-annexation borders. Thus they have eradicated many shortcomings of the fringe that previously spilled over the official city limits and harrassed city residents."[6]

(5) From a broad metropolitan point of view, annexation is to be favored for its contribution to an increase in govern-

mental and administrative efficiency. In the city's way of thinking, this is not a matter of pure altruism but a maneuver which, it is hoped, will redound to the city's financial and operational advantage. Annexations which are large in scale may contribute to an increase in operational efficiency by means of reducing high unit costs and the duplication of small governmental functions. Take, for example, the situation in which a city annexes the remaining half of a township which over the years has been gradually worn away by smaller annexations. As the township goes out of existence its general governmental structure disappears. Fire and police protection along with street and park maintenance and school operations are taken over by the city. In most instances this would result in only a slight expansion in city personnel required for these services. This would occur because, frequently, there is a substantial expansion reserve in each of these municipal departments, which would mean that additional work loads could be assumed without additions to personnel. This is particularly true for the functions of assessment, tax collection, planning, personnel, and other general governmental services. When one considers the multiplicity of suburban villages and township governments within a large metropolitan area, sometimes reaching into the hundreds, the tremendous bulk of costs attributable to administrative duplication becomes staggering. These layers of general government are usually generously supplemented by special service districts. Special districts are organized to finance and conduct urban type services which the general suburban government, usually a town, is not equipped to handle. They cover a wide range of functions, which include sewer, water, drainage, weed control, and fire protection. Large special district organizations have, in addition to their executive bodies, clerical and field staff, plus a substantial investment in equipment. Where, again, an annexation is of substantial size, these special layers of government and their frequently high cost operations may well be supplanted by regular city services. Although the argument thus far has been in terms of large annexations, it is, of course, possible for many small annexations by a city to achieve part

of the operational savings already described when a succession of small special service districts are absorbed.

City Views Opposing Annexation

It is so generally assumed that annexations are not only favored by major cities but also promoted by them, that we do not hear much about contrary views. It must be remembered that in many instances suburbs approach the city, hat in hand and unsolicited, requesting annexation. But it is not always in the best interest of the city to accept such requests. A city must weigh the objections against the proposal in the scales with the supporting arguments before reaching a decision. As might be expected, the arguments of the city against annexation differ substantially from those raised in opposition by the suburbs.

(1) The financial aspects of annexation moves are always critical ones, that should be given due weight before final decisions are made. Some of these are familiar from arguments raised in this and other chapters.

(a) *Tax deficit possibilities.* Many subdivided areas which request annexation from townships are middle to low value residential areas on which the city is likely to run a substantial deficit because of high cost services per property in relation to low property tax returns. This particular problem is aggravated by the fact that the demands for expensive school services is exceptionally high in such areas. The birth rate is somewhat higher than in the city proper or in the higher income suburbs. While the city itself has many deficit neighborhoods of its own, it is frequently disinclined to add to this burden. There may occur situations in which, in order to get at profitable taxpayers, such as shopping centers and industrial plants, an intervening residential area like the one just described may have to be taken in. In their enthusiasm to obtain this attractive addition to the tax base, the city fathers may not be aware that the tax "profits" of the manufacturing plant and shopping center may be balanced or actually overridden by the deficit residential area. Another possibility that must be given careful examination is

that the expansion limit may have been reached in certain basic services. This means that if the annexation is consummated, even though it is a small one, major additions may have to be made to plant and equipment. A new well may have to be dug to supplement the present water supply which is under maximum usage. An addition may have to be made to the high school or to a primary school. Fire station construction may be necessary because the annexation is beyond the maximum service radius of an existing station. If the city is going to expand, these improvements will have to be made at some time. But there might be a substantial question as to whether this is the time and whether or not this particular annexation warrants the investment unless it is to be followed by a vigorous program of acquisition of other adjoining areas in the very near future. It can be seen from what has been said that if a city were to engage in an annexation program which had under consideration several small annexations at widely separated points around its periphery, it might subject itself to ruinous financial burdens. This might occur if the service expansion limit had been reached in a number of these areas.

(b) *Low income implications.* Low to middle income areas not only carry with them a property tax deficit but also have personal income characteristics which will work to the disadvantage of the annexing city. State income tax shares returned to the city are low on a per family basis. A larger number of children per family in this type of area mean more exemptions, a lesser gross payment to the state, and consequently a smaller share to the city. The likelihood of families with no state taxes is also greater in such districts.

Stability of income is of some significance in this connection. Assuming that the area contained factory workers and construction employees, the ups and downs of income might be rather precipitous as the hours of work available on the job fluctuated. Hence, the degree to which the city might depend upon a steady flow of service supporting revenue from this source is open to question. To carry this line of reasoning a step further, it might logically be supposed that periodic

unemployment linked to low income could lead to declining property maintenance and, in extremes, to property tax delinquency. The decline in maintenance might, in turn, contribute to a lowering of assessed values. It is, moreover, this type of area which is likely to contribute heavily to the welfare costs of the municipality. The moral of this line of reasoning seems to be that cities should simply avoid annexations of this kind. No doubt these are shunned wherever possible. On the other hand no city can long continue to annex without acquiring heavy deficit areas. Selective annexation can result in uneconomic islands within the corporate pattern and can gain for the city suburban enmities which may result in almost insurmountable barriers to future programs of metropolitan cooperation.

(c) *Other diseconomies.* In making annexations, cities, to their ultimate economic disadvantage, many times fail to give proper weight to the design and physical qualities of the area involved. It may be that the district is very poorly planned. The streets are too broad, or too narrow, they are not surfaced; the street and lotting system has not been designed with the terrain in mind; the building lots themselves are improperly shaped; the arrangement of land uses is poor, resulting in the damage of one use by another. This list of faults might be considerably expanded without exaggeration. Let us examine very briefly the nature of the diseconomies that would result from this sample situation.

Streets which are too broad may be introduced into a subdivision as a promotional device since they give an impression of spaciousness and opulence. But if the street is not an arterial and for residential use only then space is wasted. Economically it is a liability because local government must mend, wash, and clean of snow acres of space that are but lightly used and do not pay taxes. When the streets of the area are too narrow, there arise familiar problems of enforcing parking restrictions, acquiring new right-of-way for widening, removal and planting of bordering trees and the like. In many cases curb and gutter may be missing. While the cost of these may, upon installation,

be assessed against abutting property owners, such owners may resist because they cannot afford the assessment. However, in the absence of this type of improvement, maintenance of the street is both more costly and difficult. Except for a rough gravel topping permanent street surfacing is frequently missing in these areas. Many municipalities bear the full expense of proper surfacing. When the terrain has been disregarded in laying out the streets the city will be faced with serious problems of erosion repair because of the rush of water down steep grades. Storm sewer systems may be a strict necessity in view of the acute general drainage problems of the district. These expensive installations are frequently financed by general credit bonds of the municipality, which means that the principal and interest costs are borne by the general taxpayer of the city. Improperly designed lots can, in a similar fashion, act as a liability for the annexing city. Lots of unusual shape will present costly assessment problems. Excessively narrow lots may not sell well because they are unsuitable to the current mode of home construction. While adjoining lots may be combined, the singles that are spotted through the district may stand vacant for many years and act as a drag on the hoped for growth in assessed values. If such lots are not properly maintained, they can pull down the values on either side. A comparable, effect may also develop from lots which are oversize in the current market. These are usually too small to be split into two lots and too expensive or too large to be efficient for the average home owner. If the excess size is reflected in a broad street frontage, potential purchasers are discouraged by high special assessments which are customarily measured on a frontage and area basis. An inferior arrangement of land uses, according to a county or village zoning plan, can also be a financial and operational detriment to the annexing city. For example, excessive zoning of commercial uses at the edge of the residential area may have a blighting effect on the interior of the district. This may come about as a consequence of only partial use of the commercial parcels. Such under-utilization will leave gaping holes of unkempt vacant lots or a mélange of temporary uses

like soft drink drive-ins, that may cheapen the appearance of the area as well as complicate the flow of traffic on the adjoining arterial. Conditions of this sort will both slow the final development of the area and attract lower value homes.

In the process of annexation it is not unusual for the city to assume a portion of the general debt being carried at the time by the jurisdiction from which a particular subdivision or district is withdrawing. A determination must be made by a city-suburb government conference group of the portion of debt which can properly be assigned to the annexing area and carried over to the city's accounts. It is possible that if the total debt is very high and the value of the annexing area is also high, the portion of debt assumed will, naturally, be a significant fraction of the total. As attractive as the high assessment may be to the city, the amount of debt and accompanying interest rate which it must shoulder should cause it to pause and consider the wisdom of the annexing action. For the city must keep in mind that, although it may at the time have sufficient margin in its statutory debt limit, the assumption of a high annexation debt may be just enough more so that it will have to postpone for a few years general public improvements which it badly needs.

(d) *Legal complexities of annexation.* One situation which should make annexations relatively distasteful to cities is the struggle to conform to the rules of law involved, many of which can be most delicate and easily trespassed. Complexity has, in many cases, been created purposely by suburbanites as a defensive mechanism. Great care must be taken in compiling a legal description of the annexation area involved, because errors of inches may be challenged by suburban attorneys who seek to defeat the action. Petition signatures must also be solicited with utmost care because legal residence in the area at the time is a must and is, again, one of the sensitive points which may be assailed by either side in a legal action. Courts are often very critical of the shapes of areas whose annexation status has been questioned. The so-called "shoe string" annexation and the island-creating varieties are favorite

targets. Legal actions may drag on for months and even years, leaving the question of responsibility for public services very much in the air for all parties concerned.

Suburban Views Favoring Annexation

Are the suburbs without exception opposed to annexation? Certainly not. In many states the initiative to annex lies with the suburbs, and the consent of the majority must be obtained before a petition may be entered. Some of the arguments employed by such a majority in supporting their decision to join the city follow.

(1) *Inadequate Public Services.* One of the most frequent complaints of the suburbanite is that he is not supplied with services which are adequate for urban living. Need for more or better services usually evolves as the particular suburban area become more densely settled and as the children within each family reach either primary or high school age. Secondary school education is a major problem for many suburbs. Some of the background of this problem was discussed in the section on parasitism. If pressure of circumstance forces the suburb to reach a decision on whether or not to build a high school, the extreme expense of the move may well bring the suburb around to annexation. If the assessed valuation of the suburban jurisdiction is too low under state law to permit the erection of a high school, and if this problem cannot be solved by district consolidation with another suburb, then annexation may be the only alternative. There is also the very substantial question as to whether the suburb can afford to provide high school training of a quality equal to that of the city.

Other public services which come into demand as suburban density grows are pressure water and sanitary sewer. Individual wells and septic tanks serve well enough in the early years of suburban development but finally become a hazard and are inadequate for family needs. Water may be bought under contract with the city, or a special water district may be formed to meet the rising demand. Either solution means far higher cost than under city rates charged to residents. Sewer services

are usually not extended on a contract basis. Therefore, in the absence of a metropolitan system the suburb must install its own disposal plant and interceptor system. This type of construction can be very costly. While fire and police service at relatively primitive levels can be tolerated by a suburb much longer than inadequacies in the public services previously mentioned, pressure eventually develops next for improvement in fire protection. Agitation for better fire equipment and permanent personnel may come first from commercial or industrial users who are paying substantial fire insurance rates. One of the reasons that improvement in the police force may be delayed for some time is the availability for unincorporated areas of patrol and call service from the county sheriff's office at no additional charge.

As the degree of urbanization accelerates within the suburb, the need for a wider range of services becomes evident. Pressure for full time park, health, financial, assessment, and planning personnel begins to build up. These will, of course, add to the local tax burden which may already have begun to skyrocket. It becomes, therefore, a strong temptation to join a jurisdiction which, because of its size, already has this full range of services available at a low per family cost.

(2) *Opposition to Service Extension.* One social peculiarity of the urban fringes of our cities is the striking difference of opinion among the residents within them toward the city and toward the question of developing or improving urban type services. In partially suburbanized townships there is usually strong opposition on the part of farmers to the addition of costly and, to them, useless urban services for which they will have to help pay. Rural influence on the town board is usually strong. Farmer's votes were the controlling ones over many years before the suburbanites arrived. It takes time, therefore, before the newcomers can be expected to have much influence in the selection of board members. Attitudes of residents in adjoining subdivisions in other unincorporated areas are not always sympathetic to an increase in the volume and quality of public services. Many of these people moved to the suburbs

with the strongly avowed purpose of avoiding the ways of urban living and the expenses which accompany them. In addition it may be that the service conditions of these neighbors have not yet reached the crisis stage. Hence, if a single suburb or district is surrounded by such neighbors it must suffer without hope, but if it adjoins the city annexation will solve its problem. Some of the opposition of the adjoining neighbors may be strictly economic. They feel that if they were allowed to pick and choose additions to public services, they might be interested, but if they have to take the whole city menu, tax increases will be beyond their means.

(3) *Avoidance of Heavy Property Tax Burden.* It may seem contradictory to say that a suburb can benefit from annexation because of lowered or more stabilized property taxes. For it was in part to gain this objective that the suburb was originally created. However, as already suggested, the pressure for increased urban services cumulates at an alarming speed. The contradictory part of the situation is that the suburbanite may ultimately demand decidedly better if not more governmental services than the residents of the city itself. But his demands have a weak financing base. Not only is the suburb dominantly residential and therefore frequently of tax deficit character, but the state income tax shares may be only moderate, while the scale of service operation is often inadequate to gain the economies of size. Hence, the outcome of peak or near-peak urbanization is, inevitably, a rapidly rising burden of taxes. Only the industrial or wealthy residental suburb can escape this almost certain evolutionary stage. Not only will the property tax per dollar of value tend to rise to levels higher than those of the city, but because of the pace of suburbanization these taxes will rise at a rapid and often erratic pace. That this last situation will be unnerving to the young family which has just begun heavy, long term mortgage payments is obvious.

The cumulative effects of annexation can bring about a tax emergency within a township, which can force the rest of the unincorporated town to go the same way. Under the wearing away process created by annexations on the part of a village

or a city or both, so many of the prime tax values of a town can be cut away by a selective process on the part of the annexing incorporations that the remaining unincorporated properties will be put under strong pressure to finance even a minimum of major services. It might seem, at first, as though services would decline in step with the declining number of properties in such a township. While this is true to a certain extent, there is a hard core of general governmental services that cannot be reduced or purchased by contract on a piecemeal basis. It is these costs which may ultimately force the remnant of the town into the city or a village.

Suburban Views Opposing Annexation

Objections of the suburbanite to annexation have been touched on in other parts of this chapter. Here is a quick summary of the more familiar points, accompanied by somewhat more intensive comment on those views which are new to the discussion or have not been expanded elsewhere.

(1) *Summary Objections.*

(a) Higher property taxes will result under annexation as a result of a large number of extra services, which are both unwanted and unneeded by the suburbanite. The great size of city administration results in many leakages, not the least of which is political graft, which inflates tax bills. Cities have been notoriously bad managers of their finances. A majority of them, even in times of prosperity, are financially on the ragged edge and as a result have poor credit ratings. These low ratings make credit more expensive when bond financing of improvements is required. Taxes will, of course, reflect this sad situation.

(b) It is poor judgment to dilute the state income tax advantage of the suburbs by annexation. Managerial talent can be retained in the metropolitan area more easily with the incentive which this tax advantage confers. Moreover, the wealth of many suburbs enables them to provide services which are at a level of efficiency and quality which is superior to anything the city can provide.

(c) In many metropolitan areas the suburban governments are already buying an impressive list of services from the city. The city is getting good value in these payments and may raise fees without objection if conditions warrant. When the suburbs are ready they will negotiate other purchase contracts. What, therefore, is to be gained in service terms by annexation?

(d) By annexing to the city, the suburbanite subjects himself to many of the conditions of urban living which he has been attempting to avoid. Often the sources of these irritations are seemingly little things but of great importance to the suburbanite in his fight to preserve a better way of life. For example if he joins the city he will be forced, in some jurisdictions, to install curb, gutter, and sidewalks. While the suburbanite may be able to afford these things, the real point is that they are hallmarks of the big city, which he abhors. They suggest the emotional horrors of roaring traffic, offensive fumes, street accidents involving children, and a form of regimentation which offends a sense of democracy and struggling individualism. Regimentation is resented in other types of city regulations, particularly building codes, which are felt to be unduly harsh and antiquated. City zoning also is considered to be cast in a mold antagonistic to suburbanites. Under annexation, city zoning would honeycomb restricted residence areas with apartments and politically motivated variances and exceptions.

(2) *Self Determination.* From the beginning of time one of the principal factors promoting efforts toward urban political independence has been self determination of community policy. This is the simple unadorned objective of the average suburban dweller. He has too often been disillusioned by the general scale of American living and the all too rapid withdrawal of government from the citizen until the democracy of the Greeks and the New England town meeting has become a pleasant but almost unbelievable myth. In the suburb he hopes to get close again to his neighbor and to his government and at a distance from his job and his wife's charge accounts. By means of this renascence of grass roots living he hopes to mold his schools with his own hands, to know the men who debate and

set the town budget, in which he himself may from time to time take a hand. He wants, moreover, institutions, such as schools and government, and, perhaps even more, community living, which are in human scale. A community extent measured not in miles but in no more than thousands of yards; a school of, at the most, a few hundreds, where the individual receives adequate attention; government that is friendly, understanding, easily accessible, not too professional, small in number of personnel, and unobtrusive. Is it not true that annexation would mean the end of all of this?

(3) *Gerrymandering.* The city, and villages too for that matter, engage in a vicious form of selective annexation which can be called nothing but "gerrymandering" in its worst sense. They select the choice portions of unincorporated areas for their top tax values, leaving the rest to struggle along with uneconomic shaped remains that are barely able to exist on what tax values are left. Neighborhoods are split into political fragments in the annexation battle in order to get favorable majorities on petitions. Where policies of this sort are sanctioned by the incorporations, annexation must be resisted to the end.

(4) *Delay in Arrival of Services.* Where cities engage in large annexations of a square mile or more at a time, a grave problem develops in connection with extending city services to what may be thousands of additional properties. While some services can be provided almost immediately, others may not arrive for years. For example, fire and police protection may be extended immediately to the new area, although not at the speed or efficiency level ultimately desired. The same is true of garbage and trash collection. But adequate street maintenance, new street surfacing, street lighting, water and sewer service may be a very long time in coming, both by reason of expense and the necessarily long construction period involved. Therefore, in such instances, annexation is no better than false advertising and actually saddles the new resident with tax charges for which he is not receiving corresponding service value.

(5) *Suburban Devices for Service Expansion.* Annexation for the purpose of obtaining urban type services is completely

unnecessary because there are at least two general devices available whereby suburbs may solve their own service problems. One of these is available to townships under the laws of some states. These laws enable a township to acquire village powers. The other device, which is also generally available, makes it possible for suburban units to consolidate. This might mean two townships, a township and a village, or two villages. By means of their expanded tax base, they would then be able to finance service programs which had before been beyond their means.

NOTES

1. *Service Sales of the City of Madison to Metropolitan Communities and Nonresidents,* prepared by the Bureau of Government, University Extension Division, The University of Wisconsin, Madison, May 1, 1957, p. 25.
2. *Wis. Stat.* School District Law 1959 48-s.
3. *The Capital Times,* editorial, Madison, Wisconsin, May 5, 1960. The increase in tax load for the city tax payer is caused by the fact that relatively low value property per service dollar is added to the school tax district. Declining rates for the middle to high income suburbanite come about as a consequence of a shift from paying tuition to the county to a city tax arrangement. Tuition payments made to the county were forwarded to the city but only after value deficient area payments were compensated by those from wealthier areas.
4. John C. Bollens, *The States and the Metropolitan Problem,* The Council of State Governments, Chicago, Illinois 1956.
5. *Ibid.* p. 30.
   The great size of these annexations is explained in part by Texas law, which grants an almost free hand to home rule cities to annex surrounding unincorporated lands on their own initiative.
6. *Ibid* p. 33.

6

Basic Questions About Housing

Part I

Introduction

During the course of the twentieth century there has developed in this country an increasing consciousness of what may loosely be termed "the housing problem." Over the years the principal focus of "the problem" has changed, sometimes showing an almost cyclical pattern. There have, for example, been periods in which intense concern was shown for low income families and their housing conditions. Social reform and social work as well as legislation near the turn of the century were brought to bear on this problem area. Again, during the period of the New Deal, when the numbers of low income families were greatly amplified, federal and state housing legislation was called into action on a much more ambitious scale than formerly. Impetus gained in this particular period has carried over into subsequent years of prosperity but with diminished vigor. Another cycle-like phenomenon which can be clearly identified is associated with our major military ventures as a nation. Years of active hostilities have been characterized by restrictions on new civilian construction and the price of rental housing. The military drain on construction materials and productive means in World War II was so severe that restricitons only slightly less drastic carried over a few years after the war. It was at that time, even more than after World War I, that another closely associated cycle phase was impressed on our consciousness as a people, namely, the immediate postwar

problem of supply. Crowding of families had become acute in those war years. Doubling was common and tripling not unusual. Returning veterans, a towering marriage rate, and the release of accumulated savings placed an excessive pressure on housing supply. Getting a sufficient volume of dwelling units on to the market to relieve this crowding and expanded demand was *the* housing problem in the mind of nearly everyone. At present it appears that the decade of the 1960's and early 1970's will be a modified repetition of this emergency as a consequence of the accelerating birth rates of the 1940's and 1950's. A relatively new phenomenon or form of "consciousness" in the housing field which can scarcely be said to have existed long enough to show a cyclical or recurrent pattern, is that associated with the problem of providing housing for middle income groups. Awareness of a middle income housing problem first developed as a consequence of the birth of the public housing program in the 1930's. Briefly stated, the problem, if so it may rightly be called, centers around the seeming inequity of the fact that new housing is provided for a few low income families by local and federal subsidy, while the private construction industry, at least in the home building field, devotes its principal energies to the relatively high priced house which yields correspondingly high unit profits. This means, in effect, that not enough new housing is constructed for the numerous families in the income categories below $6000 and above the top income admission limits for public housing. These families, must, therefore, be content with used and often inadequate shelter. Programs sponsored by the federal government, such as insurance of mortgages by the Federal Housing Administration, (F.H.A.), have attempted to get at the problem by the reduction of down payments and monthly charges for principal and interest. Despite these efforts the lower segments of the middle income family group express a considerable dissatisfaction with these attempts at solution of the problem.

A few statistics may be of assistance in highlighting the housing plight of both the middle income and the low income family in this country.

Before-tax personal income of lower middle income and low income families in the United States in 1959 is shown in the following distribution:

Income Range*	Families	Per Cent
	Total, 44,700(000)	100.0
Under $1,000	850	1.9
$1,000-1,999	2,450	5.5
$2,000-2,999	3,100	6.9
$3,000-3,999	4,480	10.1
$4,000-4,999	5,470	12.2
$5,000-5,999	5,800	13.1
$6,000 and over	22,550	50.3

* Housing Legislation of 1961. Hearings before a subcommittee of the Committee on Banking and Currency, United States Senate, 87th Congress, first session, p. 646.

According to present views the "lower-middle-income" range extends from $4,500 to $6,000 a year. However, in 1959 the median income limit for admission of a family to a low income public housing project was $3,000 and only 9.2 per cent of the admission limits were in excess of $3,750. Therefore, there is some reason for arguing that the range of the lower-middle-income group ought to be $4,000-$6,000. In order to test the validity of the claim that this group is inadequately supplied with new housing consider the volume of low priced homes and apartments that have been made available by the private housing industry with the assistance of the generous financing terms made possible by mortgage insurance under the Federal Housing Administration.

Using a generous multiplier of two and one-half times income, the top new home price which could be afforded by

families at or near the top of the lower-middle-income group is in the neighborhood of $15,000. In 1959 the F.H.A. insured mortgages on 182,648 new homes under its Section 203 program; 55.1 per cent of these (100,639) had acquisition costs between $10,000 and $15,000. Therefore, in 1959 the private construction industry (F.H.A. assisted) provided new single family residences for 0.9 per cent of the family population of the lower-middle-income range. However, the total effort of the construction industry in providing new residences to all families of the country in 1959 hit a rate of about 2¾ per cent. Another item to consider in order to gain perspective on the new housing supply problem of the lower-middle-income group is the fact that about two thirds of the new F.H.A. homes provided for the group in 1959 were for the $5,000 to $6,000 income families, leaving the almost equally large $4,000 to $5,000 income group with one-third of the new supply in this price range.

It can be argued that those with incomes less than $4,000 have the public housing program to provide spacious, clean and modern apartments at rents well within their incomes. The facts are not so encouraging. Since the inception of the public housing program in 1937, through 1959, 464,915 apartment units were erected and are now under management. In 1959 there were in this country 10,880,000 families with annual gross pay of less than $4,000. Housing authorities erected 37,000 apartment units for these low income families in that year—an annual production rate of 0.34 per cent.

In the field of conventional rental housing the situation is no better. Again using the most favorable background, that provided by F.H.A., 1959 data show that the $4,000 to $6,000 income group, representing 25 per cent of all families, was receiving about 8 per cent of the national production of private new apartment units. This result is based on a computation using one-fifth of income as an average allocation for rent in the lower-middle-income ranges.

Pressures of inflation, which have been ballooning the American economy since 1942, combined with an increasing knowledge of the product that has resulted from a phenomenal

growth in the number of housing periodicals, has led more and more persons (almost regardless of income level) to the conclusion that our universal housing problem is one of cost. The two conditions just mentioned, economic stress and information, are actually catalytic factors. We have been aware for many generations that housing was the most expensive item in the consumer budget when viewed from the standpoint of acquisition cost. For the tenant rent has been second only to food in relative size of monthly outlay. Within the past forty years the complexity of the housing product in terms of both construction and equipment has pushed up total cost to an amazing degree, despite contraction in total floor area. This situation would not be considered of problem proportions if it were not for five general conditions which make present costs appear improperly high.

(1) Industrial production techniques in this country are thought to be among the most advanced. However, the know-how of home and apartment building is about as retarded here as elsewhere. Apparently we are not going all out in an engineering and production sense to extract ourselves from the handicraft era.

(2) The standard of living in this country is not only high but under the prodding of advertising and increasing general knowledge of human needs moves higher with each passing decade. Consequently we are not content to accept compromises in the face of rising real costs. We do not wish to take half the floor space that we need in order to be able to afford a living unit of good physical quality and adequate design.

(3) As the economy becomes more abundant the number of demands on income for what we, perhaps erroneously, consider vital goods and services multiplies. Even with the benefits of installment credit the costs of operating a single family residence cut deeply into the range of alternative purchases.

(4) Where home purchase involves mortgage financing, which is the usual case, the burden of debt is a heavy one. This situation can often contribute to a sense of insecurity and a lack of flexibility when employment is not steady. Yet with

items like the modern costly house, heavy debt is inescapable except for the favored few. Renters, too, carry their share of mortgage debt and its accompanying interest.

(5) While a large part of the housing cost problem is traceable to antiquated techniques of production, it is also true that the materials employed contribute their share to the difficulty. The principal construction material in residences continues to be wood. Supplies of suitable timber continue to decline. With the sharp increases in demand that are anticipated, this dwindling supply will be placed under further pressure and this will push cost up even further. While timber imports will relieve the supply problem there is no assurance that they will also soften final lumber prices. There is, moreover, less reclamation potential in wood than there is in metal. Thus nearly all supply must come from the original source. Steel is used more and more in home construction. But the source of high grade ore is also shifting to points outside the country. The price spiral of steel is too familiar to warrant extended comment.

The inroads which have been made on the basic problem of cost have been hindered by rather formidable yet often elusive conditions of thinking in this country. We have not, for example, been able to formulate in clear and generally acceptable terms the nature of the housing problem. Propositions stated thus far in the chapter probably do not come up to either of these standards. Reasons for this indecision are not far to seek. From what has been said concerning the history of the housing problem, it is clear that we are faced with conditions so recent in origin that we are, no doubt, still without proper perspective. Problems are, moreover, numerous. How are we to know which one or ones are the most vital and, therefore, most deserving of attention? Partly for the reasons just mentioned the approach to the problems of the housing field, however selected, is completely disorganized. Research conducted in housing is too often focused on a particular manufacturer's product, such as roofing. Research engaged in by the federal government and some of the larger universities is promising but small in scale. As pointed

out earlier, the principal state and federal housing programs of a non-research nature are wholly financial in character and do not pretend to strike at the roots of the problem.

Finally, there is present in our national thinking the belief that incomes are rising so rapidly that problems related to cost will momentarily be solved for all. This is, of course, an unfortunate attitude. We are certain neither of the permanency of our prosperous climb nor of the date when the middle and the end of the line will enter the Promised Land. Inflation can play strange tricks with rising incomes. Therefore, it is a wiser course to assume that the millenium is still a respectable distance away and that we must continue to shoulder our problems for a little while longer.

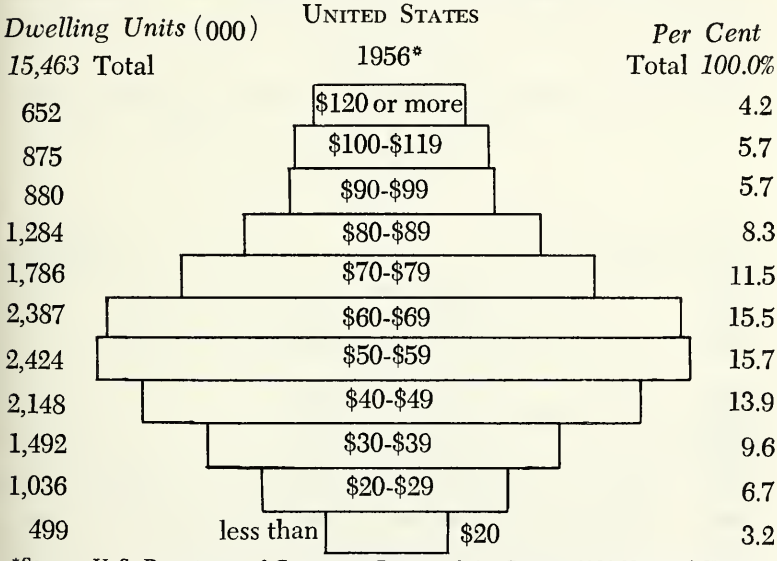
The pages following briefly examine the principal approaches to the problem of housing cost for families in the middle and low income ranges.

Filtering

In a price economy familiar processes exist for the allocation of existing supplies of durable goods to those demanders who lack the ability to purchase the newly produced version of the commodity. In common terminology and as applied to housing this means that those families who cannot afford new housing suitable to their needs purchase or rent used housing. Most durable goods markets work in this way. For automobiles there is the used car market which contains offerings ranging from the high quality second hand model down to the museum piece that may scarcely pay the cost of the ad to clear it from the lot. Stoves, refrigerators, boats, and other durable items of personalty move in markets that are familiar to all. In housing the downward movement of a dwelling unit in the community scale of values over time is described as "filtering." This operation of the free market is one means by which the needs of middle and low income groups are at present cared for in this country. It would be fair to say that this is the principal means of supply for a heavy majority of the population.

In picturing the operation of the filtering system it is convenient to think in terms of a series of bars, as in a bar chart, lying horizontally one on top of the other (see Charts 1 and 2). Each bar represents a value or rent segment of the local housing market. For example, the top bar, whose length is determined by the number of dwelling units involved, represents the dwellings with values of $20,000 or more and apartments in the community whose gross monthly rent is $120 or more. Note should be

CHART 1
GROSS MONTHLY RENT,
RENTER OCCUPIED NONFARM DWELLING UNITS,
UNITED STATES
1956*



*Source: U. S. Department of Commerce, Bureau of the Census, *1956 National Housing Inventory*, Vol. III. Data in this table exclude Alaska and Hawaii. Gross monthly rent is contract monthly rent plus the reported average monthly cost of utilities (electricity, gas, water) and other fuels (coal, oil, kerosene, and wood) if these items were paid for in addition to contract monthly rent. If furniture was included in the contract monthly rent, the reported estimated rent of the dwelling unit without furniture was used for the computation rather than the contract rent.

taken of the way in which the bars lengthen to a maximum at the center of the column and then begin to diminish again as the bottom is approached. One should not conclude that because

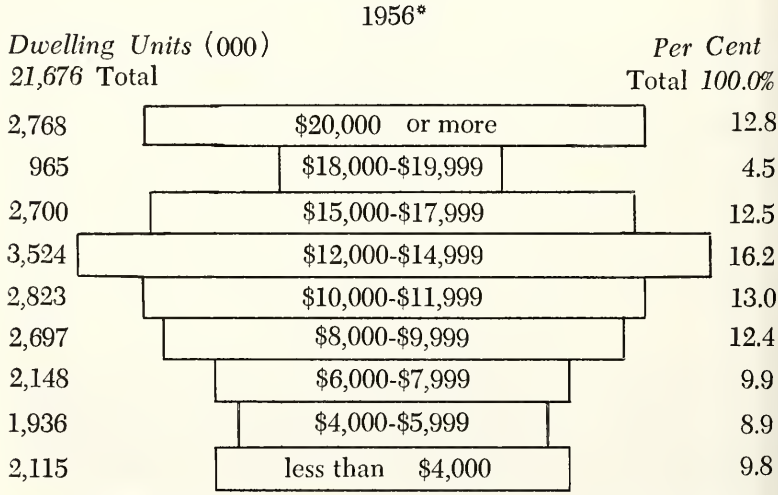
dwelling units are most numerous near the central area of values that middle income families are therefore well provided for. In actuality new construction is performed in the top value layers, most frequently the first two. Therefore, housing in the middle layers is of greater age, as a rule, and has passed through the hands of many owners. Values indicated on the chart represent the conditions in a community at one moment of time. Inflation or deflation in the absence of price or rent control would change all the value intervals while the relative distribution or bar lengths might stay substantially the same.

In operation, filtering involves the movement of a dwelling unit down the value scale over time. For example, a unit may

CHART 2

VALUE OF OWNER OCCUPIED NONFARM DWELLING UNITS, UNITED STATES

1956*



*Source: U. S. Department of Commerce, Bureau of the Census, *1956 National Housing Inventory*, Vol. III. Data in this table exclude Alaska and Hawaii. Properties involved are one dwelling unit structures without business and with only one dwelling unit in the property. Value represents amount which owner-occupant estimated that the property, including the structure and its land, would sell for under ordinary conditions and not at forced sale.

start its life at the top at $150 rent per month or $25,000 value and then over the years move to the bottom at $10 per month and a $2,000 value. Naturally, changes in dollar value may give the illusion of an upward movement or downward movement when none has actually taken place. To repeat, the test of movement is to be found in the position of the unit relative to all other units. Conditions causing filtering are numerous. It is important to note a few here in order to judge the potential of the process for providing adequate housing to middle and low income families. In general, a surplus of units must exist at any one value level before filtering can begin. However, the surplus must be large enough to weaken the price of some units and cause them to move downward to the next lower value stratum. A surplus can be created by changes in supply or demand. Positive changes in supply are brought about by new unit construction or structure conversions within a value level. The newly constructed, more modern, dwellings and apartments are certain to weaken the competitive strength of the least desirable units in the value class. Such units may be poorly located, physically deteriorated, illy designed, or inadequately equipped relative to the newer ones. In moving to a lower value level, nonetheless, these units might be the best of *that* group. In fact, if the downward movement were sufficiently large to weaken prices at the second level then the competitively weak units of that level would move downward. Demand changes can have similar effects. If as a result of wage increases for the workers of one segment of the community a movement up the scale to better housing occurs, the stratum vacated may well be left with a price-weakening surplus of units in relation to demanders at that price level. So, again, the weakest dwelling unit competitors will be pushed out and down to the next stratum.

Advantages of this system of housing supply are partly ideological and partly practical in nature.

(1) Filtering is a free market operation. It involves no governmental controls or subsidies. It reflects the American idea that each family ought to receive what it can afford.

(2) Under the filtering process it is possible for the middle income family to obtain housing of the very best design and quality of construction. It would be impossible for them to pay for such construction if it were new. Compromises would have to be made if they bought new housing of this quality, in that design would be sacrificed to soundness of construction or vice versa. Other critical compromises might also have to be made with equipment and fittings which could in turn lead to high cost maintenance over the life of the structure.

(3) In acquiring a house which has filtered down several levels a family is gaining the advantage of a structure which has gone through its shakedown period. Faults, such as they are, have been detected and either corrected or compensated for in the price. Data on such factors as fuel and maintenance performance are available from former occupants and can be used in judging the fairness of sale or rental price and the ability of the prospective occupant to carry the property.

(4) In a majority of cases new housing appears in formative areas. It is frequently difficult to tell the kind of neighbors that will be your year-round companions. The quality of schools, shopping districts, and streets are also significant unknowns. When buying or renting in an established neighborhood these service relationships, like the physical and economic characteristics of the dwelling unit, are easier to evaluate. Therefore, we may conclude that the environment of the filtered unit is in a more tangible, settled condition, which is much more understandable to the average home or apartment seeker than is the case in the average budding subdivision.

(5) When housing is viewed in terms of physical space it would seem reasonable to conclude that square foot for square foot used housing is a far better bargain than new construction. In fact, older homes and even apartments will tend to supply more space per unit than newer more compressed dwellings. For the young and growing family with many claims upon income, space is one of the most sought after qualities in the housing product.

(6) Where the family involved is planning the purchase of a new home, problems often arise in connection with financing. A mortgage lender must be faced and a satisfactory performance or prognosis must be presented by the prospective borrower relative to his credit rating, his earnings prospects, and family life. If, on the other hand, he purchases a used home the seller can allow the buyer to assume his mortgage. In this situation the buyer's dealings with the seller's lender may be no more than a brief formality. If purchase is arranged "subject to the mortgage" the lender may not appear in the transaction at all.

Weaknesses of Filtering System

As in any system which functions in the free market there are flaws in the operation of filtering. In reviewing these flaws part of the task is to evaluate their basic importance by way of counterbalancing or cancelling the advantages just discussed. As in previous rebuttals no attempt will be made to check one point against another but rather the broad areas of weakness will be revealed for what they are worth in the process of forming opinion.

(1) Technical critics of filtering refer to what they call "the time dimension." In appraising the ability of the filtering process to provide middle or low income families with suitable housing, it is important to know how long it will take for a newly constructed house or apartment to move down the value scale from the top to a particular point. Obviously it will take a longer time to reach a family near the bottom of the scale than one near the middle. But in either instance there is a waiting period or time dimension involved. What is the significance of time in this connection to middle and low income families? Certainly one implication is the fact that the longer the time period the older the unit. While some dwellings have great qualities of endurance others deteriorate rapidly perhaps because of poor construction or inadequate maintenance. At any rate there is a strong chance that the housing stock available to the average middle income family will be liberally sprinkled with visibly deteriorating housing. As the time dimension is extended the tendency toward obsolescence also accelerates. Heating,

plumbing, and electrical equipment become outdated. Room arrangements are no longer efficient according to modern standards. Even the exterior styling of the structure may become conspicuously outdated. One of the principal factors which contributes to the stretching of the time dimension is the fact that the length of the value bars or strata increase as the center of the community value distribution is approached. This means that as the value strata become longer, the movement of dwelling values through them becomes slower and slower. This rate of movement will increase again when the strata start to shorten once more in the lower value ranges. The reason for this slowing action is traceable to the concept of the surplus. As will be recalled, a surplus of units is necessary at any one value level before filtering can take place. The greater the number of units in a value stratum, the greater the surplus necessary to weaken price and cause filtering. Since the surplus of units moving downward from higher and shorter value strata will invariably be small the chance of a surplus building up quickly in the middle, broader strata is reduced considerably. Moreover, many new families and inmigrant families entering a local housing market for the first time are likely to enter this middle market, absorbing the meager surplus that might otherwise have led to filtering.

(2) The fact is often overlooked that filtering of neighborhoods as well as dwelling units and structures takes place. Groups of dwelling units in the same general value category will often be found clustered in their own homogeneous neighborhoods throughout a city. As they age and undergo obsolescence the neighborhood itself goes through a similar process. The neighborhood, while it is made up of structures, is also composed of people and community service uses. The changes to be examined here take place in the people and services. The change which takes place in the neighborhood toward the end of the family cycle is a familiar one. As the children of the original occupants grow up and move away the aging parents remain on in the neighborhood because of lifelong familiarity with it. If their economic means are limited they may take in roomers. Roomers are usually single persons and of a strikingly different social and occupational

category from the native residents. The presence of roomers not only alters the social character of the area but also increases the intensity of structure use. This last situation may contribute to the speed of decline in the physical condition of a building. Over time, as the city as a whole grows beyond what at one time were the outer limits of the average residential neighborhood, the volume of traffic moving from periphery to city center and back again begins to grow and make many of the formerly quiet residential streets general traffic arteries. Another change which is probable as the neighborhood ages is the appearance of commercial uses as zoning is altered. Second hand car lots and filling stations may be the earliest harbingers of a type of change that can rapidly mushroom through the entire area. It is also inevitable that as time passes, and the economic as well as social character of the neighborhood changes, a transformation occurs in the nature and quality of schools, parks, shopping facilities, and municipal maintenance. The school building serving the area, probably a primary school, goes through the same tortures of deterioration and obsolescence as the residence structures and units. The morale of its staff may well be affected by these conditions. As the child population of the neighborhood declines, school facilities are used to capacity less and less often. This condition combined with probable overcrowding in periphery schools can cause the local school board to neglect the older installation. Somewhat the same line of reasoning can be applied to neighborhood park areas which are not used to any great extent by the ages and types of people now found in the area. Street maintenance, tree trimming, even garbage and trash collection may not be up to standard. City authorities are prone to put last on the servicing list areas that because of their unstable and changing character are weak in political influence. There is, moreover, the already mentioned factor of pressure on city departments to care first for the newer areas where much catching up in both construction and service establishment is necessary. Neighborhood shopping areas are as vulnerable as any other service use in this group. Probably the changing social character of the neighborhood has the greatest influence over shopping

activity. As the family orientation of the area erodes, with old couples and roomers dominating the scene, there is certain to be a marked decline in supermarket shopping, and patronage of the large-scale drugstore, hardware stores and other family-focused outlets. Some of these, in an attempt to hang on, will neglect maintenance, cut service, or engage in retailing and display practices which will label the district as one which is slipping. Liquor stores, taverns, dry cleaners, and other convenience activities may, to some extent, buoy up over-all sales volume of the shopping district but will not greatly add to the distinction of the neighborhood. The pertinence of this rather lengthy comment on neighborhood change to filtering is simply that the middle and low income groups, when they depend on filtering for their housing supply, must often settle for a neighborhood of questionable quality along with its used housing, good and bad.

(3) As a consequence of the conditions described in the preceding paragraph it may be difficult for a prospective home buyer in the middle or low income class to arrange for a mortgage loan from a lending institution. Banks and savings and loan associations usually exercise a strict selective loan policy among the various residential neighborhoods of a community. Ratings of neighborhoods may range all the way from Grade A risk to flat rejection of an entire district. While it is unlikely that middle income families will be forced to apply for the purchase of a home in a rejection area it is probable that they will apply for "C" or "D" risk grade properties. This means that the terms of lending will be relatively strict with high down payments, short repayment periods, and, possibly, a higher rate of interest. Casualty insurance rates may also tend toward the high side in the neighborhoods open to these families. Difficulties with these aspects of property acquisition will, usually, tend to vary with age. Structural aging problems are, on the other hand, not readily detectable conditions—particularly for the first-time buyer or the person who knows little about physical construction. The average person can, for example, tell when paint is necessary and when a roof is overly porus. But it takes someone with more expert knowledge to tell that a roof has five more

years of life and that although the paint looks good it was, originally (just prior to sale), a quick, cheap job that must be removed and replaced in a year. Heating and plumbing systems are even much more complex and are usually beyond the judgment of the layman. All this means, therefore, that what may appear as reasonably priced housing at acquisition can hold cost pitfalls of great scale.

(4) A serious flaw in the theory of the filtering process which bears with particular weight on the purchaser of a single family residence or the renter of a flat, is the fact that the physical character of such housing is often subject to drastic change over its lifetime. The large single family residence may be cut into several apartments, as may the two and three-flat building or duplex. This means, therefore, that the supply of original housing with fairly large floor space per unit which comes into lower income hands is restricted. It is true that this variety of supply restriction will probably not hit the top of the middle income group. However, with the passage of time and the entry of structures into broader strata and lower value markets the temptation of owners is very great to meet a characteristically heavy demand at such levels by means of squeezing more units out of existing space. It is then that the center and lower segment of the middle income market will first be hit by space constriction.

A few concluding comments are in order on the filtering system. If the main complaint of the middle and low income group is that the construction industry is not providing it with its just proportion of *new* construction then the filtering system is no answer at all since it is a *used* housing answer. On the other hand it is probably true that filtering does, with limitations, provide this economic segment of the population with much *standard* or reasonable quality housing. To what extent this system is unjust or discriminatory is a matter of opinion but even more a matter of national standards. Hence, it is truly a controversial issue. Regardless of one's personal opinion, it is a fact that filtering takes place and can readily be observed. The question

is, therefore, whether or not this free market mechanism provides housing justice according to our present standards of value.

Financing Solutions

It may be in large part because of the nature of the American economy that we have, thus far, tended to lean most heavily on financial solutions to the problem of new construction for middle income families and to a much more limited extent for lower income groups. Reliance on the financial assistance approach can be interpreted in at least two ways. From one point of view it can be said to be an admission of defeat. We are saying that there is no denying the fact that housing is by nature a costly item and nothing can be done to bring about any significant reduction in this cost. Another point of view maintains that finance programs, particularly those that are government sponsored, are holding actions only. This means that the solution or substantial mitigation of the housing cost problem is a matter that will consume many years of testing and experimentation. In the meantime what is needed is a form of subsidy to care for the needs of those groups that the private construction industry does not find it profitable to serve by conventional means. We will not attempt to judge at this point which of these views is correct.

There are several standard areas of cost that can be treated by a financing program. Some of these were mentioned in the process of discussing the filtering system. At this point they will be explained and interrelated more fully.

In very general terms the financial problem involved in the purchase of a house can be divided into the immediate costs of acquisition and carrying costs.

(1) The immediate costs of acquiring a property include the down payment and the closing costs. When the private individual borrows from a bank, the mortgage loan will typically cover from 50 to 60 percent of the amount required to make a home purchase. In other words the home buyer would in the case of a $15,000 house have to provide from $6,000 to $7,500 of his own cash. It is, however, the practice of all lending institutions to apply their loan ratio or the proportion they will lend

on a particular dollar total, to the appraised value which *they* put on the property. Therefore, if the bank has a conservative appraisal policy it may be that, in the example cited, the ratio of 50 to 60 percent will be calculated on a $12,000 rather than a $15,000 base. As a consequence the amount of cash which the purchaser must raise will be substantially higher. It is true that a more liberal ratio, as high as 70 per cent, may be obtained from a savings and loan association. These institutions, however, may also from time to time appraise mortgage loan properties very conservatively rendering a much lower effective ratio.

Closing costs are often a substantial part of the cost of acquisition. These costs include the charges that are levied in passage of title and arranging the mortgage loan. By way of example, they may include the cost of searching the title to the property in order to assure its validity, the cost of recording both deed and mortgage, cost of having the property appraised, title insurance, handling fees, and so on. Many of these charges must be paid in cash by the home buyer. It is not unusual for out of pocket closing costs on an average house to amount to $200 or $300.

Financial carrying costs over the life of a mortgage loan follow one of two general patterns. In the commonest type of program the principal of the mortgage is amortized over the term of the loan. Interest is charged on the declining balance. Amortization may be partial or complete. When it is partial, payments at specific dates are made against principal over the life of the loan, but when the termination date arrives a substantial amount of the obligation, as much as 50 per cent, may remain to be paid. In full or complete amortization the amount of principal due is divided into equal annual, semiannual, or monthly payments so that when the end of the term arrives the mortgage has been paid in full. The other plan by which the loan is carried is often referred to as a "straight" mortgage. Here no principal is paid during the term or life of the loan. This type of loan falls due in a lump sum at the end of the loan contract period. During the term only interest on the fixed amount is paid. If the borrower is unable to pay the sum due at the end of the

term, he may renew, if the lender is willing, after payment of a renewal charge. These patterns of repayment are of importance to the buyer in that they determine the frequency of impact of the repayment and interest burdens. It is the term of the mortgage loan which, in a sense, is more important than the manner of repayment.

Where full amortization is used, the length of the term has much to do with the size and, consequently, the financial weight of the periodic payments on the borrower of the loan. Consider for a moment the relative effects of a ten year versus a thirty year, term on the pay-back burden of a $10,000 mortgage. This means $1,000 per year as against $333, or when converted to monthly figures about $83 as compared to $28. There is, moreover, the important factor of interest to consider in this case.

Where the loan is fully amortized and the term is long, interest charges will, of course, cumulate. Over a very long term, such as thirty years, it is possible for the borrower, even at a moderate interest rate, to make a final outlay for his property which is as much as 50 per cent more than the purchase price. Hence, we may conclude that small differentials in the rate of interest, while not of great importance over the short term, play a much more important role in creating a high total cost over the long term. But the penalty of this higher total cost must be traded against the advantage of small monthly outlays.

Financing Cost Reduction Programs

(1) The Federal Housing Administration.

One of the many objectives of the F.H.A. has been to assure middle income families a chance to acquire new housing suited to their needs. Through the agency's mortgage insurance program, an attack has been made on the acquisition and financial carrying costs of both home and apartment owners. In the home owner category the most prominent plan is Section 203 of the National Housing Act. Under this section there are three subsections which pertain directly to middle income needs. One of these is aimed at the lower segment of the income group, those with incomes around $4,000.[2] Down payments for families in

this group have been pared as low as 3 per cent of appraised value, which might mean, under conservative appraisal by F.H.A., an *actual* down payment of perhaps 10 per cent. The loan term for this group reaches a maximum of 35 years for new housing, 30 years for existing housing, while the rate of interest varies with pressures of the market. Under F.H.A. insured mortgages it is, however, necessary for the borrower to pay an insurance premium. In the case of all Section 203 insured loans this premium is ½ per cent on the declining balance. Therefore, although F.H.A. backed interest rates tend to be on the low side of the market, the insurance premium in effect often puts them back on a par with conventional rates from the borrowers' point of view. Top and center portions of the middle income range are taken care of by yet another sub-section of the National Housing Act which has a top insurable limit of $25,000 for one and $27,500 for two family structures.[3] This sub-section also covers three family buildings at a top insurance limit of $27,500, and four family structures at a top of $35,000.[4] Term, interest rate, and insurance premium are the same for these value categories as for the lower-middle-income group. Mortgage insurance under Section 207 applies both to new and rehabilitation construction and covers housing types all the way from detached single family and row housing to multi-unit elevator apartment buildings. This legislation is intended to aid building corporations who are willing to have their rents controlled by F.H.A. in return for the very attractive lending terms available under this mortgage insurance coverage. Lesser insurable amounts are available to corporations seeking to avoid management supervision by the government agency. For walk-up apartments this section will insure up to $9,000 per apartment if such apartments are less than 4 rooms on the average.[5] Roughly this is equivalent to rents of between $30 and $40 per room per month which would reach just below the median point of the middle income group. For elevator apartments under Section 207 insurable dwelling unit limits are higher at $9,400 and per room limits reach $3,700 for apartments of 4 or more rooms. Loans up to 90 per cent of estimated value which will run for 40 years are possible under

Section 207. The interest rate is ⅔ per cent lower than on 203's but is supplemented by a rather substantial 1½ per cent insurance premium on the declining balance of the principal.

From what has been said about the F.H.A. approach thus far, it is possible to conclude that the agency has reduced the immediate costs of acquisition by its down payment terms. Financial carrying costs in terms of interest burden are, because of the insurance premium, about the same as those in the private market. However, the out-of-pocket month to month burden of the buyer and renter is lightened considerably by the long repayment term which is possible.

Specific criticism of Section 203 and 207 programs as means of meeting the needs of middle income families can be summed up rather briefly:

(1) Mortgage loans with a long term mean a high total outlay of dollars for the owner in the end because of the interest factor.

(2) Financial subsidy on a large scale can be inflationary. This will result in a gradually climbing unit price for housing. Even lower down payments and longer terms will be needed to make the program continuously available to the middle income group.

(3) Mere existence of attractive mortgage lending terms does not mean that they will be used to a significant extent. This is true because the processing of applications for mortgage insurance is a lengthy and often complex procedure which carries with it a special charge levied by the F.H.A. *Interest rates allowable to approved lenders often fall so far behind the private market rate that this form of lending is simply not worth the effort.* If loans are discounted in order to compensate for the low rate, then the amount of the discount is likely to appear in the price of the dwelling—thus making it too expensive for the middle income group. If, on the other hand, the discount is absorbed by the speculative builder, then his profit incentive is greatly weakened and he may not be inclined to use the F.H.A. approach at all.

(4) A criticism made by many lenders is that *F.H.A. plan*

down payments are too low to be safe. By this they mean that if a buyer has only a 10 per cent down payment in his house and something goes wrong with his job or some other sort of financial emergency occurs in his family, he will not have a very strong incentive to hang on to the property. Although the lender is protected from loss on foreclosure by mortgage insurance, he can't be sure that all his losses will be covered. There is, moreover, the question of his reputation as a lender, which a succession of foreclosures will not support.

(5) In large part as a result of the conditions described in (3) and (4) the maximum term and the maximum loan ratio are infrequently made available by private lending institutions to individual home loan borrowers.

Cooperative Housing

Whenever the problem of middle income (and to some extent low income) housing is mentioned in the public or political forum one panacea which is sure to receive major attention is that of some form of cooperative housing. The idea is by no means new in this country. Apartment developments of considerable scale have been operating under this principle for many decades. As the situation is expressed by one writer on the subject: "To combat high rents following World War I and at intermittent intervals since, co-operative apartments have been provided in some American cities, notably Chicago, Los Angeles, New York, and Philadelphia. The pattern of their financing is as follows: first, there is organized a corporation whose assets consist of the land and building which constitute the apartment. Then as large a mortgage as can be obtained will be obtained, with the land and building as security. Each apartment is assigned a price dependent upon the arrangement, the relative location, the number and size of rooms, and so forth. The purchaser of this apartment secures the right to use it so long as he meets his obligations to the corporation, together with a block of stock which represents his purchase price. The total amount of stock issued is expected to be sold for an amount

sufficient to make up the difference between the net proceeds of the mortgage mentioned above and the total cost of the project. The cost here includes land cost, all construction costs, selling costs, and profit to the promoters."[6]

There are several types of cooperative plans, but the one which has the greatest pertinence to the problems of the middle and low income family is the 100 per cent plan in which the tenants are the only stockholders and, many times, the initiators of the project. The tenants elect a board of directors which may hire a professional manager and determine project policy. The "rent" which is charged each tenant is assessed on the basis of his stock shares and is a monthly sum which is adequate to pay all operating expenses plus mortgage principal and interest. Cooperators may leave the project by selling their stock shares back to the group at book value or current market price on a precalculated value.

Although most housing cooperatives are in the form of apartment projects the individual home type of project under the encouragement of the F.H.A. is beginning to put in a more prominent appearance. Land cooperatives are also found in this country. It is the purpose of the land cooperative to enable a group of prospective home owners to buy raw land and develop it according to their own design and ideas without the profit margin which goes to the individual land developer.

Under Section 213, F.H.A. mortgage insurance is available for both individual and project type cooperatives with housing types ranging from single family detached to multifamily.[7] Insurable cost limits are comparable to those offered in Section 207. Loans are insured up to 90 per cent of "replacement cost" which is a more generous value base than the "estimated cost" base used in the 207 operation. As with 207 the term of repayment is a generous 40 years with an interest rate, again, about ¾ per cent below the common F.H.A. rate, but with a high insurance premium of 1½ per cent on the declining balance. Section 213 has been used but little for reasons that are not entirely clear. There are those who believe that information concerning it has not been publicized sufficiently.

Advantages of the cooperative approach are numerous, but those which pertain to cost aspects are of most concern here. In the 100 per cent cooperative one of the outstanding advantages of the system is the elimination of operating profits. When a cooperative project is initiated and executed by a professional promoter the latter's profit must be considered. But once this profit is paid the project proceeds on a cost basis. If the project is initiated by the cooperators then profit charges are eliminated completely. Members of a housing cooperative have available to them the same tax advantages as the conventional home owner. They may deduct for tax purposes from personal income all property taxes paid and their share of mortgage interest. By virtue of the fact that they participate in the operation of their project they can be certain that they are operating at maximum efficiency. Carefully established maintenance reserves eliminate the possibility that any one of the shareholders will be burdened with an oppressive repair expense. Economies are also to be identified with the retention of a full time maintenance crew in the larger projects. In this way much maintenance can be obtained at a wholesale rate as contrasted to the retail and odd-job rates charged the ordinary home owner. In those projects initiated by the cooperators the design of the structures, units, and site may be so executed that the cost of upkeep is kept at the lowest level possible. Again, in the case of the larger projects, bulk purchase of oil, gas, electricity, materials, appliances, and parts may carry substantial discounts which redound to the advantage of each share holder. As mentioned earlier, the advantages available through F.H.A. can give to interested co-ops low down payments and low annual financial carrying charges. This same advantage is available to housing co-ops in those states which make long term low interest loans to limited dividend organizations. Finally, the expense of dwelling unit operation is reduced to some extent by virtue of the fact that vacancies tend to be very low in this type of project.

Cooperatives have their faults, although few of them are in the cost category. One very specific criticism is to be found in the promoter initiated project. Projects of this type very often

return greater than normal profits to the developer, thus creating for the cooperators a high cost product with which they must live for many years. In some instances the promoter is financially weak. As a result he may not be able to carry through on some of his obligations to the shareholders. This will, of course, mean that the shareholders themselves will have to make up these sums from their own pockets. Vacancies may multiply in a project to the point that the remaining shareholders must pay substantial additional costs of operation. This could mean that in an extreme economic depression the remaining shareholders might be wiped out completely. Cooperator initiated projects are difficult to organize. Time consumed in waiting for the organization to form, to reconcile its differences, and to begin construction may be substantial. This can be a significant problem for families who are stranded in high cost housing and need quick relief. By joining an apartment type housing co-op, a family is obliged to pay the costs of maintenance and supervision which it could avoid temporarily in an independently constructed house. In the co-op a family cannot neglect maintenance for a year or two if there is a sudden decline in income or some other financial emergency. Hence it can be concluded that the co-op plan has the disadvantage of financial inflexibility from the individual's point of view. Finally, since the project investment is the decision either of a promoter or of a large shareholder group there will be some families who will find the cost of units a bit beyond their means but who will continue to participate because of their large commitment of time to the project and the development of personal ties with other cooperators.

Conclusions on the Financing Approach

It may be recalled that at the start of this discussion doubt was expressed as to whether the financing approach to the housing cost problem was an admission that costs could not be reduced or that cost reduction would take time and an interim approach, financing, was, therefore, necessary. The possibility is always present that interim solutions will tend to become permanent solutions. In a way the financial approach is an easy one.

With the conspicuous exception of legislation for cooperative housing, most other types, the F.H.A. most prominently, pass congressional muster with only minor mutterings of objection. The pressure groups supporting this type of housing legislation are formidable. When this support is supplemented by the natural tendency of government bureaus toward both self preservation and extension one wonders how a strong interest in any more significant form of cost reduction can be developed. The word "significant" is used advisedly. Federal housing programs when viewed in financial terms do not cut costs. Although interest rates may frequently be below the private market level they are, in effect, pushed beyond the top of the market by means of discounts and mortgage insurance premiums, not to mention service charges. As has already been pointed out the inflationary effect of some of these programs runs directly counter to the objectives of cost reduction. The best that can be said of the financial approach as a long-term "solution" is that it gives the illusion of cheap housing. Certainly illusions are important in life, but when they are promoted on a national scale in connection with one of life's basic physical necessities one begins to wonder if we will ever break out into the daylight of reality. No one will contend that financing cost is not one of the costs which must be given consideration in reducing the overall cost of housing, but it is, after all, only one of several costs and not the largest or most critical one. The physical structure beyond any doubt is the major repository of acquisition and operating cost. Land in the present state of demand has multiplied in value but is still no more than a tenth to a fifth of the total investment.

The discussion here next turns to an area of cost cutting activity, which, though it can hardly be called a "program," does focus with intensity on the costs of land and structure.

Spot Cost Reduction Approach

Throughout the construction industry in all its small scale, localized, inefficient profusion, there are constantly occuring small improvements in building methods, materials, machinery and labor relations, which contribute to what may be a long

term increase in efficiency of production and a reduction in overall building cost. Since this can't be called a "system" or a "program" it is here labeled, for lack of a better name, "the spot cost reduction" approach. This term seems to characterize with fair accuracy the conditions of advance in an industry which are brought about in an entirely uncoordinated, sporadic, happenstance manner. The principal reason for this state of technological chaos is the very small size and weakly financed state of the average residential building firm. Effective innovation which will influence a whole industry and its product is bred only by organized and continuous research devoted to the entire product. This takes strong sustained financing, which, in private industry, is to be found only in the large corporations. Earlier mention was made of the fact that the only large-scale research underway in the housing field today is that being financed by building material producers whose objective is limited to turning out a better product that will have wider and deeper uses in the building business. Innovations by builders and suppliers are pretty much hit or miss. It is ironical that despite its obvious inefficiency this is the principal approach now being used to bring about building cost reduction in a country that is dedicated to the perfection of industrial production processes. There is a possibility that cost reduction of significant proportions might take place if all of the better ideas in each category—materials, labor, and design — were put into action at the same time. However, it appears that the difficulties holding back these sleeping innovations are mountainous in a few cases; in others the obstacles are of mole-hill proportions. So, again, the pattern of potential is as spotty as the pattern of new ideas. In examining the ideas that follow it will be well to keep in mind that no one of these spot approaches is the answer to the problem of housing cost for the low and middle income family. However, one or two, notably those concentrating on materials and labor, might make substantial though not decisive cuts in the cost total of the house unit. All proposals combined might be the solution, but this is pure hypothesis. No attempt will be made to discuss or even list the multitude of spot cost reduction ideas that range from improved

nailing techniques and power equipment applications to brick laying machines and building labor piece rate systems. Attention will be directed principally to the broad, rather revolutionary and still somewhat controversial, proposals that might be expected to have a more than interesting effect on cost.

Building Materials

The materials and equipment which go into a dwelling constitute between 40 and 60 per cent of the total cost of the structure. From this it can be seen that we have in these two categories what is probably the core of total capital cost of the building.

Let us open the discussion with an examination of the two major phases of innovation in the field of building materials.

Standardization of Material Sizes and Shapes. Conditions of materials and parts standardization in the construction industry are in about the same state of confusion as existed in the general area of machine parts, bolt and nut sizes, and threading in the nineteenth century. Studies by the National Bureau of Standards tell us that there were in the country in 1956, 86 different sizes and shapes of face bricks in use, 45 varieties of concrete blocks, and 1,145 different versions of sink traps. There are many reasons for this situation. Custom building has much to do with these ranges. The various tastes and ideas of thousands of builders and millions of individual customers have over the years built up this backlog of selection. Local building codes, notoriously unstandardized themselves, have prescribed a mélange of tiny size variations. Many small producers wishing to differentiate their product for competitive purposes within originally narrow market areas have added fuel to the fire. The basic diseconomy of this situation is that no one of a series of sizes in a particular product line, like sink traps, can be produced in quantities sufficiently great to bring the unit price down by a dramatic amount. Suppliers must stock a complete range of parts, styles, and sizes even though many of these have a very slow turnover. As a result the markup on the more rapidly moving stock must be

great enough to meet the carrying costs on the more lethargic items.

Builders, particularly those engaged in custom contract work, find that unfamiliar sizes and shapes slow down the installation process and often result in much wasteful trial and error cutting in order to fit the item properly. In short, a reduction in size and shape range would not only stimulate mass production but would result in economies all the way down the line to the ultimate consumer, the house buyer. While this general proposal of increased standardization may be considered too radical by many, it is a trend which has been developing for many years. The best known example is dimensional lumber. Everyone is familiar with the two by four-inch member which makes up the wall stud and plate system of most frame homes. Two by six-inch roof rafters and two by ten floor supports are clearly visible in any attic or basement. There was a time, only a little more than a hundred years ago when these were cut to size at the site for many a home construction job. Wallboard, a rather recent arrival in the construction field, comes in 4 by 8-foot sections in order to fit the 16 inch on center 8-foot high wall stud systems. This is a perfect example of the rapidly growing system of "modular coordination" as applied to building materials. Modular coordination briefly defined is a system of interlocking measurements which operates upon a standard unit of four inches, four feet, or any multiple of four as applied to two or more associated materials or elements used in building construction. It is possible to see the consequences *without* such coordination. If the wallboard were produced in 3 by 6 foot sections, it is clear that there would be a two foot gap between the top of the board and full ceiling height of 8 feet. This gap would have to be filled by cutting a two foot strip from a spare section, a time consuming process when repeated many times all through a house. It is probably apparent that no matter how the 3 by 6-foot section was cut there would always be some waste, which, again, over an entire structure would be a cost item of some importance. In this example there would be an additional problem in the fact that the 3-foot horizontal

dimension of the wallboard would reach across only part of the space between every other stud interval. This example is in no way exaggerated because an absence of integration actually exists in a great many other parts of the structure notably bathroom tile, bricks, concrete blocks, window and door frames. Modular coordination does not, however, necessarily apply to such standardization problems as the sink trap and the multitude of pipe fittings used by the plumbing trade.

Objections to materials standardization is focused mainly in the consumer and producer fields. The consumer has vague fears that standardization of materials sizes will be but another step down the path toward monotonous uniformity for the structure which, nonetheless, he seems willing to accept in most product lines other than housing. There is at present a conflict in the consumer's mind between his desire for individuality and for a low cost housing product. The real question here is: will materials and, perhaps, appliance size and shape standardization actually undermine individuality of interior and exterior design? A secondary objection of the consumer is to the problem which arises in connection with replacements and repairs on older housing that was not built to standard modules. He reasons that if the range of sizes and shapes is reduced the majority holders of older homes will have to shoulder wasteful cutting and fitting costs that were, at least, less pronounced with a wider range of sizes. From the materials producers' point of view objections are more numerous. He emphasizes the fact that conversion of production assembly lines would be a costly process. The restricted product size range would have an unproved market. For many producers and distributors it is advantageous to have a broad variance in product style and size for the sake of more effective competition. The basis of competition would have to shift from the product to some other element in the business transaction where particular firms would be in a less advantageous position. Along this same line of reasoning there is the case of the small producer to consider. He may put out only one or two odd size lines and may have a good business within this restricted sphere. Standardization

might eliminate these lines altogether—forcing him, if he planned to stay in business, to enter into the output of the broader product line which would, undoubtedly, be produced by the larger firms at a price level which he could not approach. Finally, there is the general resistance of inertia. Some of the material lines like brick have numerous producers. The sheer size of the industry in cases such as this makes the process of discussion of and agreement on changes in product a very involved one.

Then, of course, there is the problem of the local building code alluded to earlier. Since municipalities are relatively sovereign in the administration of their codes and dependent on the state for only basic standards, the chance of gaining acceptance of standards changes by several hundreds of building departments and city councils is not bright. While some hope of national adoption of standard sizes and shapes of materials may exist by means of changing state codes, such regulation is usually not directed by the state at the needs of homes and small flat buildings. As a result there would also have to be a rather drastic concurrent change in the philosophy of state code application.

Adoption of New Materials. New materials represent another broad area of possibility bearing on the question of reduction in structural building costs. At the present time it is possible to speak only in terms of potentialities and possibilities. Some materials like concrete and glass are not new in the absolute sense but new as basic building materials. Others, like plastics and aluminum are, at least in the residential field, still considered fairly radical. Plastics appear in many different varieties and chemical combinations depending on the purpose for which they are intended. As a principal building material, they are still in the testing and development stage and for this reason their cost is high relative to traditional wood and steel. What, however, is the relation of all these materials to the problems of cost of acquisition and operation of a house?

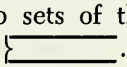
To date the most extensive experimentation has taken place with concrete. There is, for example, the slab construction system which has been used by the Air Force at its North African bases and to some extent at military camps in southern Virginia. Under

this method of construction, prone, rectangular forms for receiving concrete are set up in three parallel rows. The forms are so designed that when the concrete shapes are put in place they will serve as the walls and floor of a structure. Sometimes the roof of the one story structure is included in this series. After the concrete is poured, has hardened, and the forms have been removed, a giant crane lifts the wall sections into place around the central floor slab which has already been fitted with plumbing outlets. Window and door openings have, naturally, already been provided in the wall sections. All sections are then bonded together and a frame roof is added if a concrete roof unit was not originally included. The single room interior can then be partitioned but otherwise it is ready, with the exception of some stone finishing and appliance installations, for permanent occupancy. Under mass production such a unit exclusive of land and appliances would in this country cost, roughly, in the neighborhood of $4,500 to $5,500. Floor space in these specific units is 600 square feet. The 1,200 square feet necessary to the minimum space needs of a family of four would cost about $8,000 to $9,500. With land and appliances included the finished cost would be close to a top of $12,000. While other means of slab construction are known, the basic costs of the structure still do not vary much either upward or downward from the level of the example.

There is a second form of concrete construction system which is still pretty much in the experimental state, but shows great promise from the standpoint of production practicality. Sunday newspaper supplements and somewhat flamboyant feature articles in magazines have given prominent but not altogether favorable publicity to "the balloon house." Some of this reaction is doubtless traceable to the unorthodox shape of the structure. The method of building is simple. A circular concrete slab is poured with plumbing, electrical, and sometimes heating outlets installed. An immense nylon mesh bag is laid over the slab. The edges of the mouth of this bag are attached to the perimeter of the slab. By means of compressed air the nylon bag is inflated to its semi-spherical limit. Over the bag is laid a mesh of chicken

wire in which openings are cut at appropriate points for doors and windows. A concrete-type preparation known as "gunite" is then sprayed over the chicken wire. When this coating has dried to a sufficient firmness, or even somewhat before, another casing of chicken wire is installed. Gunite is sprayed over this second casing. And so the process continues up to the thickness desired by the builder. When the final layer has been applied, the nylon bag is deflated, pulled away from its perimeter fastenings to the slab, and out the main door opening. The structure is then ready for interior polish, partitioning, and appliance installation. Size and relative cost of this structure is about the same as for the slab structure. One great difference lies in the greater cubic space and airiness of the balloon type.

Aluminum as a home building material has not progressed much beyond the siding and roofing stage. In these forms it is relatively expensive but, as is true of most metal finishes, it has very low maintenance cost. Assuming that the cost of aluminum can be brought below its present market level, it has great potential in connection with another engineering discovery, the geodesic dome. Like the balloon house the geodesic dome is a half-sphere shell. It is a space frame made up of equal length straight line structural elements (often piping) formed into equilateral triangles that, in turn, form interlocking hexagons. The framework produces a structure of amazing strength. Interlocking sheets of light weight metal are laid over the open triangular and hexagonal pipe sections. So far this method of construction has been used with great success in commercial and industrial buildings in this country. The light weight metal skin used in most of these cases has been copper. It is felt that an aluminum or translucent plastic skin, or a combination of these two materials, would be aesthetically and practically more suitable to residence applications. Since there are no large scale production models of the residence form of the dome, it is hard to say what the ultimate cost would be. But the construction principle makes it appear as though on-site labor hour input would be unusually low for the house shell.

Plastics, in spite of their newness when compared to a material like concrete, have spread through the house product with amazing rapidity. Innovations in the chemical combinations of certain plastics have enabled them to cut into the plumbing field to a striking degree. While at first plumbing plastics were suitable to cold water installations alone, they have now been adapted to hot water lines with indications that they ultimately can be used in heating systems employing low pressure steam and hot water. Plastic pipe flexibility would do away with almost all pipe fittings. Plastic partitions, usually translucent, are now used extensively in offices and are just being introduced into residences. Plastic supporting beams are still in the discussion stage and have gone no further largely because of high relative cost. Most dramatic of the experimentations with a plastic housing shell is the French invention which has been adopted as a pilot research product by the Monsanto Chemical Company. A prototype exists for publicity purposes at Disneyland. The basic structural component of the dwelling is a moulded plastic form in the shape of the letter "L." These basic components are combined in such a way that an angular mushroom-type structure results. The stem of the mushroom is a very broad stubby rectangular column some 8 to 10 feet high, where the heating and rough storage facilities of the structure are situated. The parasol of the mushroom is cruciform in shape. Each arm of the cross is made up of two sets of the basic components placed in side view as follows  . These form the separate rooms that center around a utility core of a kitchen, a bathroom, and a lavatory. This is the equivalent of a six-room, three-bedroom house. Crane assembly cuts the erection time of the shell to a few hours. Once the basic cost of the material is brought down, the mass production economy of working with a single construction component should cause impressive cut-backs in the ultimate consumer cost for the housing shell.

Before closing discussion on the points favorable to new materials, it is proper to point out economies of importance other than those at the production end. It has already been suggested that maintenance in terms of repairs, replacement, and painting

would be cut to a very low level if not eliminated where concrete, aluminum, and plastics are concerned.[8] Distribution economies are also of importance in the argument. For example, shipping and storage costs are greatly reduced when the structural item is quite light yet can be packed densely in box car, truck or warehouse. This possibility exists for aluminum sheets or the Monsanto plastic structure component.

It is, perhaps, obvious that nearly all of the new materials mentioned express their maximum economy in construction when they are applied to new *forms* of housing. This emphasizes a point that will be stressed again in this discussion, namely, the idea that one of the great chances for cutting housing costs lies in the direction of a new physical conception of the house itself.

There are a number of qualifications and objections which must be weighed in judging the cost reduction effectiveness of new materials. It already has been stated that many new materials and attendant processes of home building are either in the experimental stage or have affected such a small segment of the market that it is too early to gauge their potential. So rapid is our rate of technological progress in general that it would be unwise to commit ourselves to any one new construction system that would ultimately affect all residences in the country. A variation of this same argument maintains that introduction in volume of new models and forms of housing will present a parts replacement problem which will cause that of the automobile industry to pale into insignificance. It has been pointed out consistently throughout the discussion on economy of new materials that most of them pertain to the shell of the house alone. We know that in the case of the conventional house the shell (exclusive of lot, heating, wiring, and plumbing) represents about 85 per cent of the total investment.[9] If by application of, plastics to the shell, for example, that portion of the investment is cut by a generous 25 per cent, total investment is reduced by about 21 per cent. Hence, new materials when viewed from a fairly optimistic angle will provide only a beginning along the road toward a substantial solution to the cost problem. Finally, when new materials are combined with new housing forms, there

arises the even more impressive obstacle of consumer acceptance. Aluminum siding has had a long uphill fight despite the fact that it has been applied to conventional housing. Superstitions involving concrete are only within recent years beginning to show signs of weakening. Fears of cold, dampness, chipping, noise, and the like have afflicted this material. The cooler the climate, the greater the resistance to use of concrete seems to be the rule. Plastics are still associated in the public mind with celluloid collars and childrens toys. This feeling may even be perpetuated by the Monsanto model's location in Disneyland. While an individual consumer may be a liberal or a visionary when it comes to use of some of these materials and forms he, as the first owner, may not be as confident of the attitude of others in the market when resale becomes necessary.

Building Construction Labor. When the question of high home building costs come under discussion, construction labor is usually the factor most frequently subjected to blame. This situation prevails in part because of the emotional overtones which still surround union existence and action in this country and, in part, because of the use of hourly on-site pay rates which are automatically converted in the public mind into 40-hour weeks and 50-week working years, plus overtime. Here, moreover, are trades which the public can readily see at work on nearly any day. This gives the public the impression, therefore, that it is a good judge of the productivity of the building trades. Building materials and appliances, while not exempt from critical public comment, are more of a mystery to the public. They are frequently complex in make-up. Their prices are set at a distance from the community under conditions unfamiliar to the general public.

There are many reasons for the level of building labor's hourly rates, on which it is necessary to comment before relevant proposals for general labor cost reduction can be made. One of the more familiar reasons for seemingly high hourly rates in the industry is the fact that it is a seasonal operation. In spite of a trend toward more cold weather building in apartment, commercial, and industrial lines, the starting of homes is confined

very largely to the spring and fall months with a very low rate of participation by the general building labor force from the first of December until the first of March. During the active building season, there are frequent shutdowns because of inclement weather, non-delivery of materials, or faulty integration of the work of sub-contractors. The long building cycle over an average 18-year period from peak to peak travels from dizzy pinnacles to crevass-like troughs. It is said that in its sick spells home building sinks faster and lower than any other capital goods industry. At its height home building often puts such extreme pressures on the available labor supply that the price of this labor rises in a mercurial manner according to the simple economic laws of the free enterprise system. In larger communities unions have become well established in all of the principal craft lines. These organizations have established working rules and informal practices which critics claim act as hindrances to high productivity. In formulating these rules and practices union motives are mixed. Resistance to the use of paint spray guns is in part directed at job protection, but it is also a move to protect the health of the worker. Limitation of paint brushes to a maximum width of four inches reflects mixed desires to maintain high quality workmanship, to increase productivity by reducing weariness, and, again, to help preserve the "lump of work." By means of internal union agreement and federal legislation, jurisdictional disagreements and consequent work stoppages—at one time a cost element of some significance—have been reduced to zero within the past few years.

The general assumption is that if we can successfully attack some of the major causes of high hourly wages, there is a chance of cutting this aspect of cost which constitutes 30 to 50 per cent of the total investment in the structure. With this in mind, consider some of the specific corrective proposals that have been made.

It would appear that if the seasonal fluctuation in home building can be reduced there might be a chance of some dollar reduction in labor cost. This seems to be very largely an engineering problem that involves little more than the transfer of cold

weather general construction techniques over to the home building field. However, there are roadblacks to this solution. Much of the seasonality of home building is traceable to institutional market factors such as the beginning and ending of the public school term, community moving and lease termination dates, the influence of deepseated custom and human psychology over spring housing starts. Breaks in the flow of work during the season are almost impossible to forsee or avoid, although there are possibilities of reducing irregularities attributable to subcontractors and delivery delays or errors by means of a different builder organizational form. These potentials will be discussed in connection with the examination of pre-and site-fabrication at a later point.

Employment uncertainties that are attributable to the building cycle are, of course, deeply rooted in the functioning of the national economy. Federal operations like the Federal Housing Administration and the Federal National Mortgage Association are intended, in part, to act as stabilizers of the industry. There is evidence that they have worked well as pushers on the long cycle upswing following World War II, but there is as yet no assurance that they will act as adequate stimulants in a very deep downswing.

More sharply focused spot cost reduction proposals related to labor cost include perennial consideration of the guaranteed annual wage idea. It is argued that if a construction worker can be guaranteed an annual minimum income of a certain amount, he will either eliminate his hourly wage demands or reduce the rate by a substantial amount. There are many objections to this plan. One is that few contractors are financed well enough to make such guarantees. Their work force is relatively fluid. Market volume can't be predicted with sufficient accuracy to make the accomplishment of the minimum for a moderate size force a certainty. Many administrative obstacles also seem to make the plan unworkable in this industry.

Another general proposal directed at improvement of the labor cost situation is that industrial unionization rather than the craft form should be promoted in the building industry. At

present a small industrial union does exist but does not have much influence over the building production process except in a prefabrication plant here and there. In theory, an industrial union arrangement would view the labor force working on a single building project as a unit and not as a group of distinct crafts. This system would enable free crossing of what had heretofore been craft lines. Carpenters could be freely shifted from their traditional job to the installation of wall and floor tile or window systems. General laborers would not be required to qualify as carpenters before engaging in the construction of scaffolding or forms for the pouring of concrete. In short, the flow of work would be smoother under such organization; there would be no costly halts in construction forced by the slow arrival of a particular sub-contractor. There would be no expensive waiting at different points in the erection of the building because of the craft line distinctions among those on the job. Supervision would be simplified; work hours could be more efficiently planned; output goals could more easily be established for the project as a whole. With sub-contracting either eliminated or reduced in scope the number of profit markups would be cut dramatically. It is general knowledge that the sub-contractor also takes a profit in his individual bid on the materials which he uses. The materials may be obtained at builder's discount but installed at a price only a shade, if any, below retail. This condition multiplied through a home can contribute to a substantial increase in its cost. Finally, there is the matter of wage bargaining. In many areas the separate building trades have different contract expiration dates. Contracts made with the builders' organization of an area characteristically come up for negotiation in the spring. Under the present craft arrangement, separate talks about wages and fringe benefits must be conducted with each trade. If agreement cannot be reached with a particular key union like the carpenters or plumbers, construction throughout an entire metropolitan area can be slowed down or stopped for several weeks. Variability in dates of negotiation contributes to the uncertainty of building plans on the part of the contractors. Under an industrial union system the contractors' association

would deal with one union on one date for a single package of benefits and one scale of wage rates.

In spite of the rationality of the one union concept there are many objections to it that must be weighed. The craft unions have tremendous power which stems from their very large membership, long years of operation, and the development of political ties and know-how at all levels of government. Resistance to industrial unions is bred in the bone of these organizations. Detail objections include such items as the fact that industrial unions to be successful must function in connection with large firms, as in the automobile industry. Large firms are the exception in the home building business although there is a trend toward increasing size of the firm within the last few years. There is also a substantial question as to whether or not high standards of work that are so necessary in many aspects of home building could be maintained under this organization form.

In closing these comments on building labor some observations are in order on the subject of piece rates. Rates of this type have been proposed as a means of lowering the basic hourly rate of labor and increasing its productivity. Briefly stated, the idea is that if a bricklayer were offered $2 per hour rather than $3 and then a penny a brick for each brick layed per day beyond a total of 400, there would be strong incentive for the workman to lay a larger volume of bricks. Piece rates would reward the highly productive worker and attract more efficient workers to the trade while the less productive would be discouraged either from entry or continuance in the business. Piece rates have been resisted over the years by unions in general and craft unions in particular. One union argument against the idea is that piece rate systems usually result in a speed-up which is injurious to the worker. Basic wage rates are likely to be sticky since management is inclined to argue that increased earnings should come from greater efforts by the worker at the piece rate end. There is also the fear on the worker's part that the point at which piece rates begin will be gradually lowered by management with a compensating rise in the piece rate. Finally, there is the

feeling on the part of the unions that the speed encouraged by piece rates will undermine quality standards of the craft. Builders also oppose the plan because of its administrative difficulties. The cost and difficulty of checking each worker's daily piece output would be very great. Piece rates would, moreover, present another point of difficulty at the annual bargaining table.

The discussion of spot cost reduction will conclude with brief comment on three other aspects of the approach which, though they do not carry the same importance as materials and labor, demonstrate the potential for further reduction.

Building Lots. Land is assuming a role of increasing importance in housing costs. While a few years back it typically claimed about 12 per cent of total cost of house and lot that share in some parts of the country is now moving up close to 20 per cent. While part of this change is attributable to general inflation, most of it can be explained by excessive pressure on short supply of both suitable close-in sites and the money to put them into shape for home building. The conditions which have contributed to higher than necessary costs of building sites have been known for many years. As with building, much of the trouble lies in producer organization. With the exception of the very large metropolitan areas, subdivision lots in most communities are developed and marketed by part-time practitioners of the art. Realtors, lumber companies, small shoestring investors all have a try at this type of speculation. Only within the past 15 years has it become common for a builder of 100 or 200 houses a year or more to do his own developing. The average small builder has neither the finances nor the inclination to enter this part of the real estate business. The end product of this situation is a series of small, 20 to 50 lot subdivisions spotted here and there about the periphery of the city. The market is analysed in only a haphazard manner by nearly all developers, and as a result the risk of failure or of very low return is great. In order to counterbalance this risk costly promotions are conducted to accelerate sales and lower the holding costs. The mark-up on the land is substantial with a 100 per cent anticipated return on investment considered fair. The individual who buys one of these

lots is, of course purchasing at retail. Only the builder who takes three or four lots at a time is likely to receive a 10 to 15 per cent discount. Even the price to the builder is, however, considerably above the lot unit cost which might be expected if he had developed the entire subdivision himself. In short we are faced in the typical instance with a largely non-professional, small-scale, high risk, inefficient variety of land production system which means high cost to the consumer. Methods for making this part of house production more reliable and, it is hoped, cheaper are moving but slowly along relatively few lines. Cities, by stiffening their plat approval requirements, are hoping to get a more responsible and competent type of developer into the business and squeeze out the incompetents. This line of approach often includes requirements for the installation of curb and gutter, sewer and water at the developer's expense. There seems, however, little doubt that the greatest hope for economy in the land factor of housing lies in large scale production of that land.

To date those techniques of large scale subdivision which are the most impressive combine land and buildings in what might be called a simultaneous production operation. However, as was pointed out a few sentences back, this variety of mass production is not economic in small and middle sized cities. Even where it is employed in cities between 250,000 and 750,000 population it usually represents only a small percentage of the total output of lots and new housing. What then is the answer for these lesser urban centers? There are at least two possibilities. One is the land cooperative. As mentioned in the discussion on co-ops the land version may involve, for example, a 100 family group which forms an organization to buy 60 acres of raw land that it will plat into building lots and a community park area. Members can then proceed after platting with construction of their individual homes on a private basis when the time is right for them. If sufficient funds are not available for outright purchase and development, mortgage financing may be obtained from the seller of the land. Then the co-op members make monthly payments for two or three years until the mortgage is paid off and all engineering work on the plat is complete. This

method eliminates not only the high speculative profit of the developer but also heavy advertising and promotion expense, salesmen's commissions, excessive property tax carrying charges, and individual title insurance cost. Another possibility for economy in land production is that of municipal purchase and development of residential lots. Sales in this circumstance can be made at cost. The open land provisions of current urban renewal legislation offer one legal means of proceeding in this connection.

There is growing sentiment in this country particularly among home builders' groups against excessive speculation in close-in acreage surrounding the core cities of the larger metropolitan areas. In a short span of no more than five years the price of such acreage has, in some instances, jumped by more than 1,000 per cent. This has resulted in prices for rather typical home building lots of well over $5,000 and has, consequently, forced the erection of homes in price ranges beyond $30,000. In an effort to escape these exorbitant land prices, some builders have leap-frogged outward to cheaper land. But this has meant a less active buyers' market. Part of the reason for decline in demand is, of course, the time, dollar, and irritation cost which is imposed on the commuter by such remote locations. It is the belief of protesting builders' groups that a differential property tax should be instituted throughout the country which would hit land very hard and improvements lightly. Capitalization of such a tax would lower vacant land prices drastically and encourage construction. While lightly regarded for many years this version of single tax theory may well become politically viable as well as economically welcome.

Compromises between single family detached housing and apartment construction would help not so much in lowering the actual cost of land but in using land more efficiently. Semi-detached housing, the duplex or row housing of one or two stories could bring about a more efficient use of land by means of eliminating adjoining residence side yards. The rear yard is also often rather small in area with these structure types.

Criticisms of these land cost solutions are brief but weighty. Cooperatives are subject to the usual organizational problems and cannot, therefore, be thought of as any mass treatment for the land cost situation. Extensive municipal land purchase for sale or rent to private home and apartment builders is subject to substantial legal question and is, moreover, contrary to current American custom and philosophy. Large-scale simultaneous development of land and buildings as a solution is open to the double criticism that it requires both massive financing as well as a massive local market if ultimate success is to be even a possibility.

Building Codes. Reference has been made several times in the course of this chapter to the influence of building codes on cost. While it is probably true that unsuitable codes may not add more than a few hundred dollars to the cost of any one dwelling unit, this may well be the margin that will keep a customer out of the market or discourage a builder from putting up dwellings in a particular code jurisdiction. The difficulties with today's codes can, when confined to general terms, be rather quickly enumerated.

(a) Many codes are seriously outdated. They have frequently gone without substantial overhaul for 20 or 30 years. In a field which is moving as rapidly as that of building techniques and materials this is a very serious lag.

(b) A typical characteristic of these antiquated codes is that they operate on what is called a specification basis. For example, they will require that a common wall, such as might be found between the dwelling units of a series of row housing units, be of a specific thickness and be constructed of a particular kind of brick and insulating material. This means that no other type of wall can be permitted even though it might be a better and a cheaper wall.

(c) New materials are, of course, restrained from entry into the market by the specification code. As a result both the performance qualities, the aesthetic appeal, as well as the lower cost of new materials can be forbidden to all dwelling units covered by such codes. It must be kept in mind that cost is a

function not alone of the price of the material itself but also the labor expenditure made for its installation. In the case of interior wall finish there is no comparison between the installation cost of plaster and wall board. And yet under Chicago's code wall board is not permitted.

(d) Non-uniformity among codes from community to community makes it difficult for materials manufacturers to produce uniform lines and enjoy nation wide distribution. This is particularly true in the electrical, heating, and plumbing lines.

(e) Not only are cheaper more efficient materials inhibited by antiquated codes but also modernized production methods such as prefabrication. Some codes prohibit prefabricated structures, others forbid prefabricated sections, like plumbing assemblies.

The solution to these problems has been under discussion for many years. Some progress has been made, but the core of the problem remains. National codes have been drafted, such as the National Plumbing Code, in an effort to standardize requirements by making the model available to all communities. Similar actions have been taken by states like New York which has prepared a residential code that can be employed by any community of the state thus saving the expense and time of individual preparaiton. As a means of counteracting the specification code a performance approach is gradually being introduced in some cities. Under this system no specific thickness or materials are prescribed as in the example of a common wall. Rather, performance standards are laid down which state that the wall must have a certain load bearing strength, resistance to sound transmission and fire for a minimum time period.

The principal obstacles to the realization of these goals on a broad basis are vested interests and public apathy. Materials dealers, manufacturers, and labor unions tend in many areas and situations to resist the introduction of more efficient materials and methods of building. The manufacturer and dealer may wish to continue selling an item which, like brick, has a monopoly specification at some points in the construction process. Or it may be that for both dealer and manufacturer the mark-up on

a substitute material under a performance code is not as attractive as on the specified material. Building labor unions may cooperate in this restraint by agreements with local dealers which pledge the membership to the handling of only specified items in the course of their work. Traditional, specified materials may, moreover, consume more hours in the course of installation and will, therefore, be more appealing to the wage conscious union man. The political pressure put on city councils by these groups in order to avoid code change could be counteracted by the citizenry. However, familiar conditions of consumer disorganization and general public apathy tend, in most cases, to leave the status quo undisturbed.

Property Title. A relatively small but persistent item in the total cost of housing acquisition is that of title validation and protection. Every time a home is purchased what is known as the "chain of title" for the underlying land must be checked back over the years in order to determine the nature of outstanding claims, if any. The purpose of the procedure is to make sure that the title at time of purchase is free and clear, because if it is not then the utility and value of the property may be seriously reduced.

In order to obtain a mortgage loan from a financial institution a formal typed record of this chain of title known as an abstract must be provided to the lender. A charge of $50 or more for an abstract is not unusual. Since the cost of the abstract is dependent on the number of listed transactions affecting the property, such cost will really reflect the number of years the current transaction is removed from the year in which the property shifted under patent from the public domain into private hands, and the relative activity of the property in the market over that period. It is apparent that as time passes the cost of abstracting is bound to rise. While this is a factor which effects the purchasers of used homes more than those who buy new ones, it is still a situation of some seriousness for the latter group. As the chain of title lengthens the greater is the chance for irregularities, hence the mortgage lender will also ask for either a legal opinion of title or an insurance policy on it. Lawyer's fees

for opinion of title range from $10 to $30 among the states. However, title insurance on a residence may run as high as $300.

Only one general proposal has been presented thus far for eliminating the cumulating costs and complexities of our cumbersome title system. The Torrens system is a method of title registration in which the title to a property is searched but once. A certificate of search, after formal approval by a court, is registered in the office of the Register of Deeds. The original is left in that office and upon payment of a nominal fee a photostat is given to the owner. All fees are placed in a fund which is used to satisfy the rights of unknown claimants who may later bring action against the property. When the property is later put up for sale the owner uses the photostat as evidence of a clear title. A purchaser using the photostat as evidence will ask the Register to bring the title down to date; if satisfied with the clarity of title he will apply for re-registration and pay his modest fee.

Torrens registration is used to only a limited extent in this country. There is, of course, the problem, not insurmountable, of integrating it with our present system.

NOTES

1. Terms of lending have, of course, an important bearing on apartment rentals. This is true because a portion of gross rentals must be devoted to paying back loan principal and the interest on it. Also the ease with which apartment developments are begun is dependent upon the equity or down-payment money that is required.
2. Section 203i, F.H.A., Housing Act of 1961. Section 221, under 1961 amendment, will in extreme circumstances allow the single family residence buyer a loan term as high as 40 years. Mortgage dollar limits of this section are $11,000 for normal cost areas and $15,000 for high cost areas. Down-payments are $200 per dwelling unit for displaced families or 3 per cent of the F.H.A. Commissioner's estimate of the cost of acquisition of the property, including closing costs in the case of other moderate-income families.
3. Section 203b, F.H.A. (1961).
4. F.H.A. (1961).
5. *Ibid.*

6. Henry E. Hoagland, *Real Estate Finance*, Richard D. Irwin, Inc., Homewood, Ill., 1954, pp. 118-119.
7. Under 1961 housing legislation F.H.A. is empowered to insure a mortgage covering a family unit in a multi-family structure plus an undivided interest in the common areas and facilities of the structure. Under this "condominium" device apartments are treated legally and financially like individually built houses. Regular 213 cooperatives operate under a system of ownership shares in an apartment unit, tax defaults are divided among the cooperators—not so with the condominium system.
8. Not quite as strong a case can be made for extensive use of plate and window glass because of insurance costs.
9. *Building Cost Manual*, Chicago Real Estate Board, 1957.

7

Basic Questions About Housing

Part II

Introduction

Among the many approaches to the solution of the problem of cost in housing one broad area of attack that holds much promise is that of "process cost reduction." This cost reduction system is embodied in the relatively familiar housing forms of prefabrication and site fabrication. A much less familiar example of the system is the, as yet, theoretical short-life house, which is included in this discussion for the sake of its dramatic and revolutionary potential for cost reduction rather than its immediate applicability to the problem. The term "process cost reduction" is intended to describe a system of production economy which is inherent in the overall process of putting up a house. To put the idea another way, it is a system which by virtue of a particular process brings about a simultaneous reduction in a number of construction cost factors such as labor, materials, land, finance, and design. This characteristic distinguishes it from spot cost reduction, which whittles away at these various sources of cost in a sporadic, non-integrated manner. The direct objective of the process cost reduction system is to lower the output cost of the *whole* house; while with spot cost reduction, effort is directed at isolated elements, such as a particular material or group of materials for their own competitive sakes rather than for the sake of overall structure economy.

Process cost reduction in its present form is still quite new in this country. Prefabrication as we know it today had its experimental beginnings in the depression of the Thirties. Site fabrication in all its industrialized aspects is definitely a phenomenon of the post-World War II era. Short-life housing is still a thought for the future. Partly as a result of their newness neither of the currently existing versions of process cost reduction claim a very large segment of the new housing market. Prefabricators have long been aiming at a 10 per cent share of annual private housing output but so far have come no closer than about 8 per cent. It is almost impossible to measure the site fabricator's share of the market because of lack of precision in defining this type of producer. It is probable, however, that true site fabrication claims somewhat less of total housing output than does prefabrication. Despite the rather minor position of these forms of production in the total picture there are many indications that they may foreshadow the dominant future housing product if not the answer to the problem of high housing cost. Certainly, the rate at which prefabricating firms expanded their production during the Fifties was more than a flash in the pan, particularly when consideration is given to the fact that this was a period of marked prosperity. One might suspect that this type of product would move better when luxury commodities were in lower demand.

Prefabrication

The basic *idea* of prefabrication is very old. We are told that the Roman legions carried the principal sections of small structures with them to be used in connection with their more prolonged encampments. It is also said that the Pilgrims brought several knock-down or prefabricated structures with them to America. Those who vociferously oppose the idea of prefabs maintain that the use of these structures must have had much to do with the high death rate of that first terrible winter. Prefabricated homes were available from mail order houses in this country soon after World War I. From another point of view we have had prefabrication with us for a very long time in terms

of the *parts* of a house like nails, window glass, window and door frames, dimension lumber, and appliances. This leads to the question, what is prefabrication? There is no general agreement on the term and there is no doubt that there are various degrees of prefabrication. But for the sake of clarification of our subject it will be well to accept what seems a reasonable version such as the following:

". . . If you mix, cut, spread, fit, and patch—that's not prefabrication. If the field operation is essentially *assembly,* rather than *manufacture,* you have prefabrication. A brick and plaster wall, of course, employs manufactured ingredients, but such a wall is really manufactured in the field.[1]"

Types of Prefabrication

There are at present four principal varieties of structural prefabrication each one of which has several variations. The description which follows will not attempt to outline all these variations but will confine itself to the main essentials of each category.

1. The Precut House.

This variety of prefabrication is almost self-defining. It involves the off-site cutting of the principal timber members, interior finish, siding, window and door frames to exact size. These sections may be numbered, cross-referenced to a house plan, and then assembled in the field. Doors also come in the package from the pre-cutting factory. Window panes will be installed by local glaziers. The structure may be set upon a slab, piers, or a conventional basement prepared in advance. One of the general objectives of the amateur do-it-yourselfer is to come out reasonably even with his package of parts at the conclusion of construction. The pre-cut is a type of prefabrication which can be engaged in by the small manufacturer. It may be a sideline operation of the lumber mill. It, more than any other prefab type, is subject to the economies of self-help. As might be expected the pre-cut package has, because of its compactness the lowest shipping cost of any of the prefabs. This partly explains its rock bottom price in the prefab field. Shortcomings

of this technique are, perhaps, evident. Only the bare shell of the house is provided in the delivered package. A significant portion of the total labor cost connected with the shell is omitted from the basic package price, that of fitting the parts into wall, floor, ceiling, and roof units. Of course it is true that the omission of this cost element does enable the buyer to substitute his own labor or cheap help under his supervision. But in any full cost accounting the value of the purchaser's labor time must be calculated. The quality of the resulting product is probably not an issue here, but in any measurement of value rather than cost it assumes a position of real importance. Another fact to consider is that much ordinary lumber as it comes from the local yard for conventionanl housebuilding is already precut. This is certainly true of the numerous 2 x 4's of the wall systems and the overlapping 2 x 10's supporting the structure under the main floor. Also in ordinary home construction it is true that as a rule local mills supply the average builder with all his millwork, prefabricated, in the form of window sash and frame, door frames, and doors.

2. *Panel Construction.*

According to some authorities the official definition of prefabrication is a description of panel construction. Certainly the popular conception of prefabrication is that of the panel process. The "official" definition runs as follows: "A prefabricated home is one having walls, partitions, floors, ceilings and/or roof composed of sections or panels varying in size which have been fabricated in a factory prior to erection on the building foundation."[2]

In the panel field there are two general types which dominate the market. One of these is the wood frame panel, the other a stressed skin panel. In the assembly of a wood frame panel what we have in effect is transfer from the field to a shop of the conventional construction procedure. From the 2″ x 4″ core of the panel outward there will appear three successive layers composed of wood sheathing, black building paper, and then siding. It is common today to find the sheathing and paper combined in a type of large wall board usually black in color.

There is usually only one interior wall layer in the prefab panel; this is gypsum board rather than traditional lath and plaster which goes into so many conventionally field built homes. Metal foil coated insulation will be placed inside this partition by most manufacturers. Panel producers employ as large a panel size as is practicable. This is done in order to cut down the on-site labor input devoted to fitting and joining. This means, in effect, that the producer often aims at room-size or even full wall-size panels.[3]

Producers of stressed skin plywood panels have made a more convincing break with tradition. A typical panel of this variety is composed of verticle 2″ x 3″ framing members placed 16″ on centers, the same as in a conventional wall. Overall panel size is 8′ high by 4′ wide. On one long edge of the panel is a male joint, on the other a female joint. These are installed in order that the panels may be quickly and easily fitted together at the construction site. In composition the panel is simple. There is only one exterior finish, a ⅜″ sheet of plywood. The panel core is composed of insulation batts and a metallic vapor barrier. Interior panel finish is, again, a sheet of plywood which may be thinner than the exterior sheet. Both plywood panels are bonded to the frame by powerful adhesive preparations that can be broken only by special solvents. The panel package represents about 50 per cent of the cost of the finished structure exclusive of land. The advantages of the stressed skin over the frame panel include greater strength, resulting from the box girder type design, a lower in-put of materials per square foot of panel, lighter weight, the use of plywood as both a structural and finish material, greater practicality of system for prefabricating floor, ceiling, and roof elements, and, finally, the adaptability of plywood to modern gluing and bonding techniques which not only contribute to strength but also reduce the labor time otherwise devoted to nailing. As compared to the frame panel the stressed skin version is penalized by its thinness. Psychological reaction to this condition on the part of the public is still a bothersome question. The tightness of the construction has also presented some condensation problems.

3. *Sectional Assembly.*

Under the sectional assembly approach no structural system or materials are employed which differ from those used in frame panel construction. Here is involved a question of the degree of pre-assembly. Under the sectional approach assembly proceeds to the three dimensional stage as compared to the two dimensional version of panel construction and "one dimensional" emphasis of the pre-cut package. It is as though a complete house were erected in a factory, cut into separate sections and moved to the site for assembly. A sectional house put out at one time by Reliance Homes, Inc. was composed of seven three-dimensional room sections.[4] These were assembled separately in the factory and were complete down to windows, wallpaper, floor covering, kitchen and heating equipment. Trucks carried these sections to the building site where they were unloaded by a crane. Less than a day was required for the assembly of the sections. The great cost advantage of the sectional over the panel approach is discoverable in the more extensive application of efficient productive factory labor to the final product. Those features of the sectional house which are likely to counteract to some extent the factory economies gained can be traced to the great bulk of the sections and to field problems of fitting. With any three dimensional commodity there is the costliness of air space to be considered in shipping. In housing sections this air space is pronounced and pushes up the transportation bill because of the added number of trucks or flat cars required. Radius of distribution from the factory may also be reduced by this bulk, thus cutting back the area over which the economies of the sectional house may be enjoyed. Costly crane equipment is usually required at the site to lift the heavy sections into place. This is an operation which precut and panel approaches are usually able to avoid. As might be anticipated the difficulties of alignment are much greater, therefore more costly in labor time for three dimensional than for two dimensional sets of parts.

4. *The Complete Structure.*

A fourth version of prefabrication is that of the completely enclosed three dimensional structure as contrasted to the three dimensional pieces of the sectional house. In some respects this may be the consumer's conception of the ultimate in prefabrication where the product, like the automobile, comes complete from the factory. All of the interior and exterior finish described in connection with sectional housing is carried out with this version only to a greater degree. Most of the electrical wiring will be installed as well as the basic plumbing system. The appliances may be moved to the building site independently of the structure and quickly installed. As with nearly all prefabs the foundation remains a site production process. The main advantage of the complete structure rests in the fact that it is very nearly the ultimate in the factory produced house. To put it another way, on-site labor has been reduced by this system to a minimum and fitting almost eliminated. However, with the exception of the mobile home on which comment will be made shortly, the complete unit represents a very minor portion of total prefab production, which continues to be dominated by panel manufacturers. The reasons for this inferior position can be attributed to the very severe limitations on size, shape, and design that are imposed on a structure which can be moved only with difficulty over city streets in a very narrow radius from the manufacturing plant. As a result of this very prominent physical limitation on distribution complete unit producers can't tap markets of significant size. Consequently they have, thus far, been unable to reach high volume production with the attendant economies which would enable them to cut the price of their product by an appreciable amount.

Mobile homes are deserving of separate comment as an example of the complete unit mainly because of the tremendous implications which they hold for the entire housing industry. To quote an outstanding authority in the field:

"One industry, trailer production, has successfully bypassed the barriers to change and improvement which stand in the way

of housing generally. This industry has avoided the pitfalls which have kept the house from becoming an industrialized product—primarily by producing a finished unit and not calling it a house. . . .

"A major reason for the continuing popularity of the trailer is that it provides for more 'housing' for the money than any other dwelling type. Divorcing the house from the land makes possible many economies. The illusion of mobility excuses crowding which no fixed-housing planning would tolerate. Equipment is lighter, more compact, less expensive. . . . Most important, the whole trailer can be finished in the plant and is amenable to mass fabrication, purchasing, and distribution techniques."[5]

Thus far the market for the trailer, now called "mobile home," is confined to construction workers on the move, to military personnel with small families, to students, to the newly married, and to retired persons. The rapid, recent, and continuing expansion in the latter two categories of our population seems to indicate a boom market for this type of housing. Mobile homes already had in 1957 an annual unit output about twice that of all other types of prefabrication combined.[6] The trailer is very well made and carefully engineered. Light metal construction is the rule. All interior appliances and much of the furniture is built into the unit at the factory. Simple connections to water and sewerage facilities in a trailer park's slabs and to the park's electrical system are all that is necessary for immediate operation of the unit. A simple tenant's agreement may be the only legal paper involved. Sometimes even this will not be insisted on by the park operator. The trailer need not be moved at the end of occupancy but may be sold in the local market at going prices which are relatively stable after the 10 per cent depreciation of the first year. Cost now ranges from $3,000 to $9,000 with a $4,500 average. Most trailers are 10 feet wide and more than 35 feet in length but rarely over 50 feet. Pricing can be roughly gauged at around $110 to $115 per foot of length in the present market.

A great potential for wider use of this type of construction is to be found in the fact that with some minor design adjust-

ments in both the structure and park slab systems sub-units of smaller size can be added to the original.[7] In this way the market can be extended to families with children.

Limitations of the mobile home are, of course, present. From an environmental point of view, trailer park living is not to be compared with the average neighborhood of detached residences or apartments. There is, of course, the possibility that slab systems might be dispersed on an individual lot basis in the traditional neighborhood pattern but then land cost or rent would again become a more formidable item.[8] In fact the present shortage of trailer park installations is one of the prime limitations on the use of this housing form. In 1959 there were slightly in excess of 13,000 mobile home parks in the country with spaces for about 534,000 units.[9] This unit site total was less than half the total of existing units at that time. Moreover, less than half of the parks met the minimum standards set up by the Mobile Homes Manufacturers Association. Restrictive zoning which forces these parks into undesirable areas and the superficial management which results from the park shortage compounds the land problem of the mobile home. Parks themselves are poorly designed on the average resulting in excessive crowding, an appearance of clutter, and highly inefficient and dangerous traffic circulation patterns.

Component Construction and Mechanical Assemblies

Although not usually considered one of the principal categories of prefabrication, that line of activity concerned with component construction and mechanical assemblies is beginning to contribute in a significant way to the reduction of complete housing structure costs. The case for components is well stated by Kelly:

"If the industry is to advance it must produce industrially. Many house components should be truly interchangeable, just as it is possible now to interchange various brands of tires, carburetors, and water pumps for a car. A hopeful small sign is the development of standard "Lu-Re-Co" panels, fabricated by individual lumber dealers all over the country in accordance

with uniform designs developed by the Lumber Dealers Research Council. Extending this idea to more and more building components might well simplify a major problem of the manufacturer and of the material distributor and yet retain individuality and variety in home construction."[10]

The concept of component construction extends to bath units, kitchen units, cabinet units, and heating units. All of these units, like standard building blocks on a flat surface can be arranged according to the personal preferences of the consumer or builder. So it is that under this approach the industrial product is not the house but the standard interlocking components of which it is built. Over the years many versions of mechanical cores have been placed on the market. One of these, known as the Ingersoll unit, combined kitchen, bathroom, heating, and hot water equipment in a single package which could be fitted into a house plan at any location where proper dimensional provisions were made. A more restricted version of this installation is what is known as "the plumbing tree." This is merely a simple preassembled network of pipes and fittings which can be installed inside a partition for a back to back arrangement of kitchen, bathroom, and utility room. Fixtures are attached in a subsequent operation to the rough plumbing of the tree. In isolation the component and mechanical core approaches do not bring about dramatic reductions in structure cost. However, when adapted to dominant forms of prefabrication such as panel, sectional, and complete unit systems, then volume output can result in their basic economy being more fully realized.

Specific inadequacies of the component and core systems are not numerous but are nonetheless weighty. There is very strong resistance on the part of plumbing union locals to such ideas as the Ingersoll unit. Components such as trusses and panels may encounter similar opposition from carpenters, lathers, and plasterers but on a much more sporadic basis. The barrier provided by local building codes can be imagined. For the average consumer or small scale builder there arises a substantial question as to his ability to combine knock-down units of this variety

in a manner which will actually cut costs and, at the same time, result in a workable house.

Foundations

The principle of prefabrication has thus far not touched the problem of forming foundations. Site poured slabs and traditional basements are used for the factory produced house in nearly all instances. However, there are indications that as prefabrication becomes more widely accepted factory prepared foundations of the pier and beam type will become part of the standard package.

Economies of the Prefabrication Process

Thus far this discussion has made no organized attempt to enumerate the sources of those economies peculiar to prefabrication which contribute potentially or in actuality to the reduction of structure cost. In essence it can be said that the principal basis of economy in this process lies in its large volume, underroof, assembly line approach. In more detail the principal economies can be described as follows:

1. Increased labor output is perhaps the most prominent production efficiency of the system. A heavy percentage of prefab assembly is performed on a moving line. This means that there is a high division or specialization of labor. Such specialization will produce a better job at a faster rate. Power machinery, both hand and bulk material handling tools, are used almost exclusively in the complete plant. Even though the plant is unionized the hourly rate may be lower because of a more continuous flow of work throughout the day, week, and year. Line shut-downs because of inclement weather are almost unheard of and only the gravest emergency will result in a break in the flow of materials. By using metal jigs or patterns the process of measuring is eliminated.

2. Materials and equipment are purchased on a mass basis and at a heavy discount. By precision engineering, materials may be used to their fullest capacity and what might be waste in the conventional building process is almost completely used in the prefab operation. Examples of this include paint, nails,

odd ends of lumber that are employed as rafter bridging, insulation batt excess, and the like.

3. Top design and engineering talent are spread over a very large number of units on a full time basis. Consequently the unit cost of these highly important services is very low.

4. Financing costs for the prefabricator take the form of short term business credit or even bond financing which may be arranged at far lower interest and servicing rates than the construction mortgage employed by the average small scale operative builder.

5. Research programs of a fairly well organized nature are possible in the large prefab firm. Market analysis and product research and experimentation can be directed continuously at improving the structural product and marketing techniques in an effort to lower costs and increase sales. This type of activity is almost prohibitive for all other builders except the large site fabricator. A prefabricator is also likely to work closely with his suppliers in order to increase the efficiency of materials and equipment. The volume of purchases made by a single prefabricator can, understandably, have a substantial influence over the degree of cooperation of the supplier.

6. Management efficiency of the prefabricator is much higher than that of the typical builder. His accounting, production scheduling, and figuring of profit margins are calculated with the highest degree of business precision. This is, of course, a reflection of the very high overhead of plant, equipment, and personnel that the prefabricator must carry as a true manufacturer. The average 5 to 10 house-per-year builder works out of his home. As a rule his wife handles the books. One permanent foreman may be retained to assist in the supervisory work. The builder's capital equipment may include no more than a pickup truck and his carpenter tools.

Economies from Consumers' Point of View

The economies of prefabrication just outlined take on a somewhat different color when appraised by the ultimate consumer, the home buyer or renter. Mass production is closely

associated in the buyer's mind with low unit price. It also means that fairly expensive equipment items are passed on to him with only a small mark-up compared to the high mark-up of the conventional heating or plumbing subcontractor. Perhaps most impressive to the consumer is the quick erection time. Factory design speeds not only the site erection of the shell but also the connection of the heating and plumbing systems which arrive with stub ends that require only short additional runs. It can easily happen that the construction of the basement in advance of delivery of the house package can take longer than erection of the house itself. With a nationally or regionally distributed house such as a prefab there is involved a dealer-manufacturer warranty which obviates the chance of the buyer paying for the correction of flaws in the product after its erection. One of the strongest price appeals of the good prefab is the fact that the buyer gets fresh, imaginative design at bargain basement rates. This is a service that is rarely available from the conventionl builder with his books of stock plans.

Weaknesses of the Prefab System

Distribution is perhaps the major problem of this part of the housing industry. Prefabricated units are heavily and expensively advertised, in many cases on a national basis. By contrast conventional builders' houses are not promoted beyond the market limits of the locality and even within the community are given rather inexpensive treatment. Most prefabricators have a heavy investment in trucks. Many times these must operate empty on return runs from site to plant. Dealerships are often a headache in that the erection crews, through inexperience or ineptitude, do a poor job of putting the house shell and equipment in place. This results in bad advertising for the manufacturer. Hence money must be spent on field coordinators to supervise the early development of the dealership. The success of the prefabricator in his business and the attainment of something approaching a bargain price for a new house on the part of the buyer can be attained only through volume. Therefore it

is up to the dealer organization to provide a steady flow of orders.

Here lies the source of failure of many a producer. Uneven order flow may develop in part from the fact that the prefabricator, even though he establishes a firm price schedule, is unlikely to have control over the final sales price. A dealer may, moreover, purchase demonstration models of prefabs from several other companies as well as erect conventional housing of his own. Many of the familiar dealer devices employed in the marketing of other commodities are not used in promoting prefabrication. For example, sales quotas are used infrequently; few prefabricators try to control advertising of the product by the dealer; adequate dealer maintenance of demonstration homes is not insisted upon by most producers. This weak relationship is attributable in large part to the fact that public acceptance of the prefabricated house is not strong. If it were, the manufacturers would be in a stronger bargaining position and could raise their marketing standards. This, therefore, brings to light what may be the key weakness of prefabrication, namely the public's attitude toward the product.

Consumer acceptance of prefabricated homes in substantial quantities, let us say half of total annual housing production, is still a dream of the home manufacturer. Custom, sentiment, and prejudice still guide the average consumer. He feels that since the prefab is a factory product it is relatively cold, impersonal, unlike even the operative builder's home which is assembled piece by piece at the site. The distance of the manufacturer from the point of consumption is another aspect of this reaction. According to many home buyers a builder should be a local citizen who can appear and argue for his product if necessary—a role that is not satisfactorily supplied by a local prefab dealer. "Home" is conceived of as a haven of security. The seemingly insubstantial construction of the stressed skin panel gives the impression of low durability which undermines the feeling of security. A man's residence is often felt to be an area of self expression and individuality. How can this be possible with a home which has come off the assembly line? Someone will say

"yes, but the mobile home is accepted with ever increasing enthusiasm." One observer believes that this is because the mobile home is marketed very frankly as an industrial product and not as a house. This is another way of saying that the prefabricator of houses is almost forced by traditional demand to produce a structure which is in the shape and formed of the materials used by conventional building. If he were able to break away from these very real ties with the past the prefabricator might be able to slash his listed price in half. There seems much truth in the quizzical observation that the only trouble with prefabrication is that its product looks too much like a house.

From the consumer's point of view there is a strictly economic question involved in the choice of a prefab and that is price. He has been led to believe that one of the principal advantages which this form of housing has to offer is a final price below that of conventional housing for an equivalent amount of space. However, the ability of the prefabricator to meet this challenge has been limited. At best he has been able to shade the price of a conventional house by only a small, unexciting percentage. Where the prices are so close the average consumer will usually take a conventional structure. It is true that some prefabricators have been able to produce minimum space models which have final sales prices, lot included, in the neighborhood of $10,000. (See Table). If an $8,000 prefab of *average space*, let us say 1,300 square feet, were put on the market that would be another story. Failure of prefabricators to accomplish dramatic price reductions can also be traced to heavy dealer markups but more significantly to a vicious circle of conditions that can afflict any mass production industry. Until prefabrication can get true volume production it will be unable to undercut the dominant prices of the conventional market but there seems no way in which it can attain high volume except by means of a conspicuously low price.

It can probably be said, therefore, without undue exaggeration, that the core of the prefab problem is price. If price could be lowered sufficiently then many other troubles would be mitigated. However, ability to lower price is contingent upon the softening of a first echelon of problems the most prominent of

which is consumer acceptance. Two other problems deserving inclusion in the top rank are marketing, and material and shape. It is believed quite generally that if these top echelon problems could be brought under control then problems of the second echelon would tend to fall into line with a minimum of resistance.

Comparative Erection Costs

*National (Fairlane) Prefab and a Conventional House**

(3 Bedroom, Midwest, 1959)
(900 square feet of floor space)

	Prefab	*Conventional*
Total Cost to Home Buyer	$10,809	$12,754
1. *Cost of Site* (¼ acre lot)	$ 2,400	same
2. *Foundation and Utilities* etc.:		
Foundation and Slab	730	"
Sewer, water, oil tank	148	"
Surveys, permits, tap fee	119	"
3. *Landscaping, Driveway, and Walk*	264	"
Total Site and Preparation Cost	$ 3,661	$ 3,661
4. *House "Package" Delivered* (Materials For Conventional)	$ 3,489	
5. *Labor Cost to Erect and Finish House:* (includes costs of materials)		
Erection of house	$ 470	$ 2,250
Interior painting and taping	320	same
Exterior painting	100	135
Heating	128	same
Gutters	35	same
Wiring	153	same
Plumbing	283	475
Floor tile, bathroom accessories, etc.	180	same
Total Erection and Finishing Cost	$ 1,669	$ 3,676

6. *Financing and Legal Fees:*		
Construction mortgage financing	$ 242	$ 255
Closing fees (insurance, legal fees)	400	same
Total	$ 642	$ 655
7. *Builder's Overhead*	$ 642	$ 802
8. *Builder's Profit*	$ 706	$ 882

* Carl Rieser, "National Homes' Big Roof," *Fortune,* Sept. 1959, p. 130.

Prefabrication's problems of second echelon level include labor union restrictions, conservative mortgage financing policy, and discriminatory building codes. Difficulties with unions and codes have already been described. Insofar as local mortgage lenders are concerned policy may range from extreme cases of no loans to loans of such small size that either large down-payments or supplementary second mortgage financing become necessary. In arguing that these are problems of secondary importance the reasoning is that if the consumer approves of prefabrication and, even better, becomes enthusiastic about it then the mortgage lender need not be fearful over the resale market for such houses. Similarly, if a local building code is obstructing the widespread introduction of prefabrication into the community then public pressure on the city council can bring about prompt amendment of the code but not, perhaps, without some resistance from familiar quarters. Labor unions, it is hoped, would also respond to public pressure. If they were found to be the chief obstacle to the introduction of prefabrication in the community a continued position of resistance would be quite untenable. Those who view the entire matter more pessimistically maintain that the problems of the first and second echelons cannot be eliminated in sequence. They point out, for example, that the problem of codes must be conquered before a mass market can be developed. A similar point is made about local union restrictions. How, for instance, can factory glazed windows and mechanical cores be realized in scale until each local is

convinced of their acceptability? Ready answers to this dilemma are not forthcoming.

Site Fabrication

Another prominent example of the process cost reduction system is site fabrication. Like prefabrication this system attacks many of the prominent problems of cost in housing by means of the overall system employed in producing a house. The term "site fabrication" is used in a rather specialized sense. Some writers are inclined to use the term in describing the activities of builders who erect anywhere from 200 to 500 homes a year. However, in order to bring into play all the peculiar and substantial economies of the system it is necessary to refer to an output minimum of 500 houses in a single consolidated site or area.

Types of Site Fabrication

There are two general types of site fabrication. The distinction between the two depends entirely on the variety of structure erection system involved. What may be classified as "conventional site fabrication" merely involves the mass erection of conventional houses. The peculiar contribution of the system is found in the unique methods of on-site mass production employed. "Non-conventional site fabrication" also involves large numbers of units and a single construction area but employs non-conventional structures. Masses of prefabricated homes may be erected under this system. In effect one would see in this latter example a wedding of the two process cost reduction systems with resulting economies of a very high order. Other kinds of non-conventional site fabrication include the on-site construction of such house types as the balloon home or the slab types described in earlier pages.

The bulk of the discussion on site fabrication which follows will concentrate on the conventional type because it is the dominant form followed in this country by such producers as Levitt and Sons and American Builders. Site fabricators working on the peripheries of large metropolitan centers like New York,

Philadelphia, Chicago, and Los Angeles are constantly in the market for land. As local large scale producers they must have tremendous land reserves at hand. For a 1,000 house development plus neighborhood shopping center, school area, sewage treatment plant, and small park, they would need nearly 600 acres or about a square mile. A site fabricator begins his production process at the raw land stage. He is not only a builder but also a subdivider. Taking the 600 raw farmland acres which he has acquired following careful market and site analysis, he prepares a layout of streets, blocks, lots, and community facility areas. With his own or rented heavy equipment or by subcontract he then prepares the site by appropriate grading, filling, and cutting of streets. Sewer, water, and gas may be installed next. This step is followed by rough gravel bedding of streets as a preliminary to the installation of curb, gutter, and paving which, in order, can precede or follow structure erection. Up to this point 1,000 building lots have been produced under relatively highly skilled, well coordinated, and informed management using a maximum of mechanized equipment. The land element of the completed house is obtained, therefore, much more cheaply than under a system of retail purchase from a regular subdivider and is, moreover, completely integrated with a preconceived plan of structures. Negotiation for and assembly of land has been handled by the permanent legal staff of the firm, thus contributing to a lower per lot cost. Much the same point can be made for the engineering services of plat design, setting of grades, and surveying, all of which may come from the developer's own architectural department, which is also in charge of structure design, structure siting on the lot, and so forth.

With the construction site fully prepared, attention is next given to erection of the temporary fabrication shops and storage sheds which will be used in connection with the mass building of houses. Typical temporary installations include a complete concrete mixing plant for foundation and patio construction, a concrete block fabricating shop, a shop for the preparation of millwork such as window sash and frames, door frames and

doors. Some companies use the temporary shop plan for general precutting and the construction of skeleton wall panels, bathroom plumbing walls, stair-well assemblies, and roof trusses. Working in advance of the actual construction crews and on days of inclement weather the shops accumulate a stock of materials and components for later scheduled mass delivery to the neighboring home sites.

If conventional basements are to be used in the homes, then three or four excavating crews will start their work on the previously staked out sites. These crews will be followed by crews who install the basement footings. When the footings are ready the next group of basement men begin their work with the erection of prefabricated wood or steel forms to receive the concrete if it is to be a poured basement. This step will, of course, be omitted if block construction is planned. Careful synchronization and timing assures prompt delivery of concrete from the site plant as each set of forms is made ready. When the foundations have hardened, other crews appear to remove the forms as the previously mentioned groups continue to work on ahead of them. Where slab construction is used, the work division is somewhat different. For example, prior to slab pouring a special crew may install radiant heating coils. Immediately following the pouring of the slab, polishing crews with appropriate machinery will put a final finish on the concrete. These comments are intended to show that the division of labor under site fabrication is almost as extensive as that found in a prefab plant. However, here we see the principle extended to both land and specific site preparation, which are areas of the construction field that are completely untouched by the prefabrication process.

Moving on to the structure itself, specialization becomes more intense. While the crew principle is retained, a further breakdown of jobs may be arranged within the crew. As an instance of this, one firm has divided the job of sheathing a roof into a three-part operation. Kelly describes the process as follows:

"One man takes lumber from a stack and leans it against the building; a second man working on the roof draws the lumber up and cuts it to size; a third man does the nailing."

Specialization of this sort can create savings of more than 25 per cent by comparison with small-scale conventional building methods. As a general indication of the overall range of this structure specialization, crews are organized for the roofing itself, for wall erection, sub-flooring, finish flooring, trim installation, exterior siding work, and so on. Once the structure is completed landscaping crews take over. The general division of the labor in this category is made up of rough grading, finish grading, sodding and seeding, and shrub planting. Planting of shrubs is mechanized to the extent of using rotary hole excavating equipment.

Now that we have completed a highly generalized description of the site fabrication procedure and its attendant economies, let us next look at the areas of overall production efficiency. Many of these, it will be noted, are very similar to the economies of prefabrication and to mass production generally.

Materials are, of course, purchased by the site fabricator in tremendous quantities. Consequently, he can obtain not only heavy discounts but also special size designs that suit his module of construction. With equipment items, in particular, his very large orders enable producers to make variations in their standard product design for a single production run. In both equipment and materials he can, because of his heavy patronage insist on top quality. In some parts of his structure the site fabricator can use less than top quality lumber because many of his operational steps are not as dependent on high precision as are those of the prefabricator. This does not mean that the resulting product is inferior to the prefabricated house because less than top quality lumber very often has as good a performance record for, let us say, load bearing or insulating qualities as the next higher grade.

Purchasing advantages of the site fabricator in addition to those already mentioned include the fact that buying may be done directly from mill or factory. In this way the company

may bypass the retailer and often the wholesaler thus saving the profit markup paid by the small builder. Such an advantage may sometimes be gained only by the establishment of a building supply subsidiary, which will then sell at cost to the parent site fabricator. It is usually found that the savings made by bulk purchasing far exceed the costs of site or even off-site storage. In the San Francisco Bay area during the early Fifties it was estimated that a site fabricator of the scale under discussion could save as much as $540 a house because of the advantage of quantity buying.[11]

Financing of large site fabrication projects is accomplished more and more frequently by stock and bond issues. Tie-ins with F.H.A. insurance titles enable this type of builder to keep his equity investment to a low level and at the same time set up permanent financing for the home purchasers.

Cost Advantages and Drawbacks of Site Fabrication for the Consumer

It is probably apparent from what has been said where (in the site fabrication system) the principal advantages for the consumer lie. Not all of these are pure cost advantages but all are related to the broader factor of value which the consumer is looking for in the housing product. A competently executed site fabrication project will be carefully designed to the terrain. Such adaptation is not always possible with the average prefab. Mass production cost advantages are passed on to the buyer within the limits of local price competition. As a rule the company has as a part of its package deal highly attractive mortgage financing to offer the buyer. Such financing deals cannot be made available with any ease by the smaller-scale builder or the small local dealer in prefabricated houses.

Drawbacks to the system in the consumer's opinion include the mass effect of this type of development. In the more unfortunately designed projects there is ample justification for the term "spaghetti housing." Frequently complete clearance of trees from the site prior to building results in a blasted, sunbaked terrain which is only slightly relieved by spindly saplings that

are planted in sparse rows along with the housing. Too often the dwelling units are standardized to an extreme because in this direction lies the greatest chance for cost reduction by the producer. Variations in roof lines, entries, color of paint, and siting on the lot may break this monotony to some extent. The purchaser's chance of getting the house he wants on a lot which he considers more than suitable is very low indeed. When it comes to the question of price it might seem that the site fabricator would be able to sweep the competition from the field. However, he is in business for maximum profit and is likely to price his units according to what is being asked for comparable units in the local market. This may result in a price to the buyer which is only slightly below more conventional units and does not reflect anywhere near the full range of savings possible from the productivity gained in this system. Of course, the builder will argue in rebuttal that his fixed costs under this method of building are very high, and that his market is, unlike that of the prefabricator, limited pretty much to a single area. As a consequence his risk is great and his profits must be proportionate to that risk.

General Comparison of Site Fabrication and Prefabrication

In concluding this section on process cost reduction it may be rewarding to make a comparison between the two principal systems that best represent this approach. From this comparison it will be possible to draw conclusions as to the future potential of the systems in bringing down costs for the low and middle income groups of this country.

Site fabrication's advantages over prefabrication have been noted in the preceding discussion but have not been emphasized. It is evident from the descriptions of the two systems that site fabrication has the lower distribution cost according to many interpretations of the term. While cost of moving materials and equipment to the producer are probably the same for each, the cost of movement from producer to site is exceedingly low for the site fabricator and relatively costly to the prefabricator. Cost of physical distribution for the site fabricator is confined

to investment in trucks, occasional loading cranes, fuel, and the wages of drivers and loaders. Trucks are far smaller than those used by the prefabricator while runs do not exceed a round trip of more than two miles. Therefore, cost of delivery of materials and equipment to the building site per structure are the lowest of any type of construction. Dealer costs are completely absent from site fabrication, while advertising, though it may be heavy, is confined to the locality and usually does not enter the high cost magazine field. On the production side of the argument it is also true that the site fabricated unit is a complete product when offered to the buyer. While some prefabricator's packages are complete from the standpoint of structure and equipment, there is often much on-site work to be performed before the house is ready for occupancy. There is, moreover, the obvious fact that the site, foundation and landscaping must be provided by the dealer or consumer-buyer of the prefabricated house. This is another way of saying that these three elements can be mass produced only by the site fabricator. Therefore, the site fabricator is the only type of builder who operates under principles of mass production at practically every stage in the construction process. By way of rebuttal to this argument it could be maintained that the mobile home, as a special version of prefabrication, avoids this criticism by virtue of the fact that purchasers of such units can rent utility equipped sites which have been mass produced by trailer park developers. There is, nonetheless, even in this instance a division between the house producer and the land developer. Moreover, the trailer park developer, a typically small operator who is still put upon by local regulation, can hardly be compared with the mass site producer working with a square mile of land. Yet another argument that can be advanced for the site fabrication approach is the fact that the investment overhead is likely to be much lower than with prefabrication. A site fabricator's "plant" may consist of no more than the temporary frame structures which he erects in connection with mass preparation and storage of materials and equipment. He has, of course, a heavy investment in earth moving equipment, power

equipment, and trucks. Some or all this equipment, however, may be rented on a contract basis. Administrative staff may be fairly numerous but perhaps not much more so than that of the big prefabricator.

All this is to be compared with the prefabricator's permanent, modern, all weather plant equipped with heavy, specialized assembly line equipment of great cost. The factory building may also include the office complex of the administrative, sales, engineering, and production control staffs. Corresponding office space as provided by the average site fabricator is usually in less impressive quarters which are often rented. The property and income tax implications of these two modes of operation quite clearly favor the site fabricator. From a local marketing point of view, at least one substantial argument can be presented favoring the site system. The product can be pinpointed to the needs and peculiarities of one metropolitan area or segment of that area. This means that number of rooms, room size, type, and arrangement, even kitchen and bathroom appointments, can be made to reflect the tastes of a relatively small sub-region. Pricing can also be more easily geared to a level that appeals to local pocketbooks. Prefabricators meet the price range problem by means of a number of models, but the wider this range the greater the chance for loss in assembly line efficiency. Site fabricators work very largely in terms of one model for a single project. While they introduce variations into this model they are so minor that line production efficiency is not adversely affected.

Finally, it should be emphasized that the problem of local building codes is not as serious for the site operator as for the factory producer. In the first place the site developer probably lives in the locality where he does business. If politics are involved or constant maneuvering is necessary to effect code changes favorable to him he is on the spot ready to keep up a sustained drive for such change. For the prefabricator not one community code is involved but many hundreds. Even a single large metropolitan market will be broken down into many different code jurisdictions. The prefabricator's dealers, whose business skills rarely extend very far beyond the phys-

ical problems of building, cannot be relied upon to perform the fine manipulations necessary to bring about changes in the codes throughout their territory. Over on the side of the site fabricator again we find that in the event he is unsuccessful in his fight to alter the code he can, and frequently does, escape to periphery locations of the metropolitan area where the codes are more lenient or absent altogether. The prefabricators' dealer cannot spot his sales in this manner and so continues to be bound by what may be a highly adverse code.

Prefabrication has inherent advantages which must also be thrown into the scales before the inquiring critic can arrive at even generally valid conclusions concerning the relative cost reduction merits of these two systems. Perhaps the most outstanding advantage of the prefabricated house over its conventional site fabricated rival is the fact that it is not tied to the mass housing development. Put another way, in order to gain the economies that accompany the site fabrication process the house buyer must accept a lot and a neighborhood preselected by the builder. If he has individual tastes relative to location prefabrication is the more appropriate form since the dealer can spot his structure on odd lots and small groups of lots all through his territory. Prefabricated units can bring their economies to urban settlements ranging in size from the cross roads hamlet to the small metropolitan area that does not provide a market sufficiently large for the true site fabricator. This is not to suggest, of course, that the prefabricated house is unsuitable to or a weak competitor in the larger metropolitan areas.

Contradictory as it may sound, prefabricated units give much the greatest opportunity for individuality among all types of mass produced houses. A large scale prefabricator such as National Homes or Scholze can provide a fairly wide variety of floor plans, exteriors, and price levels. Thus the buyer is not tied to selection from essentially identical units in a homogeneous neighborhood. On the score of price level alone, he has what is almost breathtaking range, which extends from a structure package price of $6,000 to $60,000 and higher. Here is the kind of variety that the site fabricator cannot touch, nor is he inter-

ested in doing so. In the case of many prefabricated homes which are marketed principally as a shell the buyer is free to select his own heating equipment, bathroom fixtures, kitchen equipment and so on. Although he may not obtain as great a bargain as with the site fabricator's preselected items, he may benefit from higher quality and certainly from color and design that suits his taste more exactly. There can be little doubt that when architectural styling is the basis of comparison the best which the prefabricators have to offer is far ahead of the best the site fabricators can bring to the field from the drawing boards. The far greater volume of the very large prefabricator enables him to employ the top design brains available. Most site operators are simply not as aesthetically minded. In part this is a reflection of their original builder background. Most have not become aware that industrial products of the present age must, increasingly, have a high input of beauty. In broader economic terms it must be kept in mind that the prefabricator works in a geographical market which at present has a maximum distribution radius from the plant of 500 miles. The site fabricator's denser market is focused at best on a metropolitan region with a radius of, perhaps, 100 miles. On the production side of the argument again it is a fact of major importance that the prefabrication industry carries on sustained research of some depth into its product, equipment, and production methods. Not all prefabricators are able to afford this activity, but it is true of those that are to be compared with the site fabricators in the scale of their output. Site fabricators, with the possible exception of Levitt, do not engage in what may accurately be termed as research. The upshot of this comparison is, of course, that the prefabricator is constantly striving for greater efficiency through his research program, a situation into which he is more or less forced in his effort to expand production in order to reduce prices.

One final argument involving production methods is found in the differences of assembly line operation. The most casual observer will note the fact that in the case of prefabrication the assembly line moves in the traditional manner past a stationary labor force under a factory roof. In the case of site fabrication the

situation is reversed. Although many of the site fabrication tasks are performed on a semi-moving line basis under roof in the temporary structures where components are put together, the main job of the specialist crews involves moving from house to house in the open air. The inefficiency of this approach is perhaps obvious in terms of time lost in stopping the job, walking to the next site, and starting in again. In early stages of site fabrication bad weather can halt construction in the same way that it does conventional building. The factory end of prefabrication is entirely unaffected by weather, while the process of erection of the prefab shell has the virtue of flexibility in that it can be quickly executed during warmer winter days and almost between showers in other seasons of the year.

Short Structure Life

Among the systems and proposals that have been put forward as a means of reducing the cost of new housing for the consumer, one of the more revolutionary is that we simply erect structures that have a shorter life and, therefore, a lower initial cost than the conventional or even prefabricated homes that we now use. As pointed out earlier in this chapter the proposal is not one that is even in the testing stage. Therefore, the discussion must proceed almost entirely upon the basis of logic, of human tastes and customs, and of the potentialities of building and equipment technology.

By way of background to this idea it may be well to point out some of the conditions both existent and developing in our society which tend to make the idea sound more rational than it does at first hearing. The general reasonableness of the idea may well be called into question because we are constantly talking these days about slums and their elimination or about the rehabilitation of deteriorating structures. If we build structures with even shorter lives are we not compounding the problems of housing quality? The answer is in the affirmative unless we change our ideas and sentiments concerning residential land use. There is some evidence that such a change is in progress, but its extent and full meaning are still of uncertain dimensions.

Among our basic traditions of home building the most prominent include the single family detached structure, frame construction, and ownership of the underlying land by the structure occupant. It seems reasonable to believe that these traditions are in part a reaction to earlier conditions of life in Europe. Most migrants attempted to break with or escape from the customs of that part of the world which they considered unduly restrictive and oppressive. Custom in much of Europe, both urban and rural, followed a pattern of widespread tenancy. Where families of the lower classes did own their home, it was constructed of stone or brick. Durability was a tradition of building which imitated, in large part, the habits of the upper classes. It was the custom to hand the family estate and manor house down through successive generations. Therefore, the structure must last for hundreds of years. In rural areas among the landed peasantry, land and farm structures, with thatched roofs, were similarly handed down by rule of primogeniture or fractionalization in an unbroken occupational mold over the years. In the cities where tenancy was more the rule investors followed a similar construction custom. They built row housing, and multistory tenements of stone partly because of building code restrictions but, perhaps, more specifically to protect the investment which was the source of support of both themselves and their descendants.[12] In some parts of Europe, particularly by the 19th century, the supply of wood for building and fuel was very short. This helped contribute to the custom of stone and brick construction. Another fact of economic significance in the European tradition was the concept of land and buildings as the primary expression of wealth. In a society where wealth is dominant in this form it must be durable. Conditions of economic life continued to warrant this view of wealth even in this country until the end of the Civil War.

The change in attitudes which occurred among the migrants to this country is to be explained not only as a reaction to conditions in Europe but also as an adaptation to a new environment. The immigrant wanted, among many other things, the symbols of wealth, which were, in his mind the symbols of free-

dom. He wanted his own land, his own house as primary means of the self-determination which he sought so eagerly. He wanted privacy, this a reaction to the crowded conditions of living he had left and the interference he had suffered over the years from both landlord and government. Conditions of supply favored the house type which evolved. There was a sea of available timber first for log construction, later for the famous balloon frame variety of construction so well known today. Once a supply of logs had been made available, the traditional log cabin went up as fast as the modern day prefab. Most persons would be of the opinion that log construction would be superior to the stressed skin principle although it might be found wanting as a weather resisting material. Labor, while in short supply according to modern standards of demand, was more than sufficient in the early days of settlement when cooperative neighborhood construction and self-help filled the need. Land was also in such ample supply within the settlements that residential building lots were at first of a size that rivaled the community garden plots of Europe. It was not until speculative waves of urbanization hit the nation after the Civil War that a gold mine of profit was found in the general practice of "designing" home building lots to cramped widths of 25 and 30 feet. Present platting regulations are pushing lot size back up again in terms of both frontage and area. Another historic condition which influenced the tastes and attitudes of Americans was the frontier. It seemed as though the impetus gained by movement from the motherland developed into an unstoppable inertia which kept families in almost constant movement. While one generation might settle with some thought of permanence, the next generation moved farther west. Part of this movement was rooted in the urge to master the wilderness, but it was also an expression of physical and mental restlessness that has carried over into the conduct and mental set of the modern American.

It is not difficult to see the similarities and contrasts of our habits of today as they bear on housing when compared to earlier times. Today we talk about mobility. With rising real incomes and vastly improved technological means of travel, our geo-

graphical instability is increasing rather than decreasing as we approach national maturity. The average family moves once every six years, and this figure is falling by a year to a year and a half every decade. What the effect of developing means of individual air travel will be on permanency of residence we can only speculate about. Certainly, the immense popularity of the mobile home as a place of residence rather than travel has been well demonstrated. Technology and economics appear to be pushing us in the direction of the two-house family. This is partly a reflection of the over-promotion of consumer goods, with which we are currently afflicted, but it is also an indicator of changing values and ways of life. One interpretation of this trend is that the sense of or desire for permanency, the depth of sentiment for "home" will be weakened. Our sense of security will be reinforced by different sets of conditions than formerly. These will assume both material and intangible forms. It has long been apparent that our measure of individual wealth is shifting more and more from real estate to other tangibles such as automobiles, boats, and appliances, and to intangibles such as insurance, pension fund deposits, savings and loan association shares, stocks and bonds. Within the past 20 years our concept of what constitutes home ownership has shifted drastically. Under certain varieties of government insurance and guarantees private home mortgages may be obtained for very nearly 100 per cent of the house price demanded. Even the conventional mortgage has taken more of a bite from total price than ever before.

All this indicates that equities of new owners have reached the lowest point in history. Mortgage lenders feel that the thinner or lower the equity the less secure is the attachment of the owner to his home. They are, however, not particularly disturbed by this feeling when the mortgage is government-insured or when the resale market is strong. Looking at this entire matter of domestic housing tradition from yet another angle, it can be maintained with some force that we are about ready for a drastic change in the physical character of the houses that we use. Rapid changes in technology are accepted as a matter of course. We do not seem disturbed but, rather exhilarated by the changes

which have occurred with dazzling rapidity in our methods of air travel. From ambling tri-motor transport to multi-jet liners we have soared in a fantasy of change. Clothing materials, starting with rayon and then nylon, have literally run amuck in their variety and bizarre adaptations. Packaging of traditional foods has been but little more spectacular than the means of marketing them, however, there is no diminution in sales because of these innovations, in fact quite the contrary. Is it too much to expect, therefore, that we are ready and possibly eager for changes in housing product that are only mildly suggested by prefabrication and the mobile home? If, at the same time, this new housing product expresses our desire for high mobility and by its low cost enables us more easily to acquire the goods and services which are being showered on us by an increasingly productive economy so much the better. A house of shorter life, of non-traditional materials put together under modern principles of production may be what we are after. But just how would it work out? What would be its peculiar advantages?

Mechanics of Short Life Housing Concept

The general principle of the short-lived structure is familiar. Temporary structures erected during periods of military and civil emergency have been used extensively. These have, traditionally, been frame structures which in warmer climates have no insulation or interior wall finish and an exterior finish of tar paper. In colder climates more attractive composition shingles have been used in place of tar paper, ceilings and partitions packed with insulation and interior walls finished off in traditional manner. Styling of these structures has too often been minimal leaning heavily toward "barrack-Colonial" and "shed contemporary." As structures of expediency they have been tolerated when a part of the civilian housing supply. The day of their removal is looked forward to with an enthusiasm which does not leave the occupants themselves unaffected. Occasionally the structures become permanent, as with the Civil War temporaries that still grace the landscape of the nation's capital. Past a certain point in time they attain the stigma of slums,

which is frequently warranted as a result of the pernicious tendency to keep maintenance at a minimum. It is strange that a background of experience and public disrepute such as this should hold the seed of a sweeping revision in our conception of the house as a structure. The difference between the traditional temporary, as described above, and the one envisioned in the general proposal for a structure of short life exists in the span of years involved. Temporary housing of the common garden variety has a built in life of from 5 to 10 years. The "short life" house under discussion here is planned for a 20 to 25 year span. In order to maintain perspective in this discussion, two general comparisons should be kept in mind. One of these is focused on the fact that traditional frame housing in this country is designed for a life of about 60 years, or nearly three times the span of the proposed short life building. On the other hand many a New England home with no substantial basic maintenance has been in existence since the late 18th century. These in turn may be compared with the not overly elaborate stone shells of European residences which date, in many instances, to a period of time still more remote. Where then in relative terms stands the vaunted "permanency" of our average 60-year frame residence?

A life span of 20 to 25 years has been selected for the hypothetical short life house for two general reasons: One of these is the fact that the family cycle, from the birth of the first child until the time when the children leave the home more or less permanently, is likely to cover this period of years. By the time the house has reached the end of its life it would no longer be needed as a shelter and social focus for the rearing of children. This assumes, of course, that the original family prefers to stay in the house for this period of time. The chance of such an occurrence is admittedly becoming smaller. Another reason for selecting a time span of 20 to 25 years is the fact that there is in operation in most structures the "principle of cumulative replacement." By this is meant a condition which is familiar to every home owner or operator of property—the varying life spans of the functioning parts of the house. There is, for example,

the short cycle group which may be made up of both real estate and personal property items. Those items which have lives that lie somewhere between 10 and 15 years include the hot water heater, water softener, built-in oven and range, refrigerator, and, in the more modern homes, a built-in hi-fi system. Long cycle items are more costly and vital to the functioning of the house. They will have a life span depending on use, weather, and original quality, of 20 to 25 years. The roof, furnace, basic plumbing system and fixtures, and the electrical system and fixtures are in this group.[13]

No concern is shown in this argument for the fact that obsolescence may prompt the desire for earlier replacement of many types of fixtures in both cycle groups although absolute physical need for such change is not present. Under the life span here suggested *one* replacement would be required of short cycle items. When the second set of short cycle items has reached the end of its life, convergence of both the short and long cycle replacements occurs. There is no precise time cumulation of these costs but rather a rough bunching over two years or so at this cycle point. One of the difficulties of the short life idea that must be ironed out pertains to the short cycle items. For such items as a hot water heater or a water softener it would be desirable either by increasing or decreasing durability of one of them to make the end of their second cycle coincide somewhat more closely with the expiration of the long cycle items. While repair rather than replacement is possible, the factor of obsolescence is likely to encourage the owner to the second course of action unless the regional economy in which the property is situated is in a state of recession. This description assumes that the basic frame, walls, and foundation of the structure have a longer life than the roof and equipment and need no more than ordinary maintenance over the 25-year span.

On the basis of the ideas just described and the length of a rather specialized version of the family cycle, it is argued that it would be both more practical and economical to demolish the structure and erect a new one at the end of 25 years. For the family which has reached the end of its child rearing period

a new location might be preferred. For a family just starting the child rearing phase the location might be ideal, but the house would be approaching a stage of great replacement expense. Thus it would be better in both cases for the family group to start over again with a fresh, up-to-date house suitable to their needs. In order to achieve the end objective of substantial cost savings it would be necessary not only to demolish at the replacement convergence point but also to have a basic structure and foundation of such low original cost that it would be almost in the "throw-away-container" category. The basic housing shell or container in conventional form approximates 50 per cent of total structure cost.[14] If this share could be reduced to 10 per cent then the discard idea would be feasible. By way of example, a $12,000 conventional house has a shell cost which ranges between $5,500 and $6,000. A reduction in the expenditure for this component to about $1,200 would result in an overall cut in the price of the house from $12,000 to about $7,500 excluding cost of lot. From an engineering and production point of view this approach to the shell has long-run possibilities. Realization is dependent on economic development and acceptance of both new structural materials and a new form for the house. We are somewhat farther along the former road than the latter.

As was described in more detail at an earlier point, light weight metals and the rapidly expanding field of plastics show great promise. However, new methods of using wood must not be dismissed from consideration; witness the use of the stressed skin panel by prefabricators and component manufacturers as well as the great potentialities of the honeycomb paper core. Economy in the use of some of these materials is tied to new structure shapes such as the adaptation of plastics to a geodesic dome or the Monsanto cruciform mushroom house. Reference has already been made to the pier and beam approach as a means of reducing foundation costs. Atomic treatment of wastes in a self contained appliance may eventually make attachment to expensive sewer systems unnecessary. In fact there are experiments in progress which may materially reduce the appli-

ance cost element as well as that of the shell. Simple heat pumps and plastic stamped fixtures are examples of this trend.

From the home owner's point of view a $7,500 capital investment with a 25 year life would amount to a $300 input per year which though it is higher on an annual basis than that required for the $12,000 house with a 60 year life nonetheless is still a far smaller block of investment dollars. It should not be assumed that low durability and short life are related in this instance as they are in the conventional temporary structure. When the short life building reaches the end of its life span, the plastic or light metal shell may have another 50 years of performance in it but the initial investment of $1,200 has been so low that the owner would have no qualms at discarding it. Depending on the method of assembly there is the distinct possibility that the dismantled parts could either be traded in on a second hand parts market or reassembled with additions or subtractions to meet the new needs of the owner. Where plastic construction is involved, the use of strong bonding adhesive does not hinder the dismantling process. Solvents have been developed which make the procedure extremely easy. It is not maintained, of course, that sale of parts would play any significant role in the owner's cost calculations. When maintenance is considered it is possible that shell upkeep with the house of the future would be lower than with conventional construction. Patching of siding, repointing of masonry, and painting would be almost completely absent. If the plumbing, heating, and wiring were conventional their maintenance cost would probably be the same as in the average house of today. Heating and air conditioning expense might actually be a bit lower because of the superior insulating qualities of the new materials and construction system.

One other area of thought that is worthy of separate comment in this connection pertains to questions of structure removal and the underlying land. There is a very strong chance that if the structure shell has great durability the house will be treated in the typical manner at the replacement cumulation point. In other words, plumbing, heating, wiring, and appliance replacements will be made and the house will enter a new short

and long cycle phase. While this is undoubtedly an alternative which should be available to any home owner, it would defeat one of the inherent advantages of the plan and contribute some social problems on which specific comment will be made very shortly. If the underlying land were owned by the municipality and leased to the home owner the terms of the lease could be arranged in such a way that removal or change would be mandatory at the end of the 25 year period. Property tax rates might also be geared to a gradual increase with property age so that the pressure of rising carrying charges would be a rather strong inducement to removal. Building codes might be adapted to the same objective. It is the basic assumption of the proposal, however, that obsolescence of exterior styling and finish, and of interior room arrangement would be the most prominent incentives to change at the end of the period.

The advantages to the consumer of this conception of housing have been at least implied in what has been said thus far. In more explicit terms the gains for low and middle income families can be briefly stated. Inherent in the lower gross price for the structure and possibly for the land, if rented, is the potential economy of the financing. Assuming the sum to be financed is $7,500, a consumer under typical F.H.A. insured mortgage terms of today might make a downpayment of $1,400 plus closing costs. This would compare with $2,200 plus costs for the $12,000 conventional house, or 57 per cent more. Repayment of principal plus interest might conceivably be extended over a period of 10 years for the short life structure as compared to 20 years for the conventional house. This would mean payments against principal of around $600 a year for the short life house compared to a little less than $500 for the conventional structure. However, assuming the same rate of mortgage interest, the interest payments would accumulate to a greater total sum in the second case. These payments would, moreover, in the case of an F.H.A. transaction have the insurance premium of ½ per cent on the declining balance added to them over the term. It is obvious that with the loan of shorter term the property would be free and clear of debt in half the time. Inherent in

the lower price of the short life structure are lower property taxes over its life span. In fact a fairly definite terminal date might, because of more rapid write-off, pull the tax burden to a level even lower than the proportionate difference between the two initial values. In very general terms the very fact that new housing could be made available to so many more families of the low and middle income range would release pressure on the second hand supply thus speeding its decline in price or rate of filtering. In this way a benefit would be brought to those who are unable to afford even this cheaper form of new housing. Not only would the second hand housing made available to them be cheaper but also better. If and when short life housing was made available to the second hand market it would enter at a very low level, making the advantages of ownership available to income groups who either had never before owned or who, if they had owned, were forced to accept very cramped or dilapidated houses that were outdated by more than two generations.

There are those who claim that the case for short life housing is stronger in directions other than that of consumer economics. Although the emphasis of this discussion is on price, let us look briefly at these other considerations, since most of them have an economic bias of some sort. It is claimed, for example, that by shortening the life of housing units we will be able to bring the advantages of the latest thinking in structure and equipment design to a far greater proportion of the population. As noted in the previous paragraph, this advantage would redound to the owners of many more used as well as new housing units. It is felt, moreover, that the house as a commodity is responding with increasing sensitivity to the technological change that seems to dominate our era. Housing must be made even more receptive to this change and it can't be accomplished efficiently with long life, conventionally shaped structures such as dominate today's urban landscape. If we are the increasingly mobile population that we seem to be in terms of our circulation not only among, but also within, cities we need a housing form adaptable to this trend. The answer is not necessarily more

mobile homes but, possibly, a type of knock down structure that can be taken down, moved over short distances and reassembled at very low cost. It is suspected that when properly planned and developed, such a technique could be carried out at dollar outlays less than those normally incurred in connection with the sale of an ordinary house. It must be kept in mind that commissions paid to real estate salesmen represent substantial sums while other closing costs are not an inconsiderable item. There is the strong possibility that moving costs might be reduced by consolidation in the moving process of the house shell, equipment, and appliances along with the personal effects of the owner.

More important, perhaps, than these direct economic savings would be the general time economy of the transaction. As a great many homeowners are aware there often occur long, agonizing, and costly waits in the process of selling their homes due, not to the absence of a buyer, but to the inability of the buyer to sell *his* home. Often this stickiness of the market is traceable to difficulty with but one transaction which may be at the top of a rather long chain of interdependent sales. Mobility in the short life house should overcome much of this type of cost for moves *within* metropolitan areas. The principal element of supply which might impede the mobility of the short life house would be that of sites. Whether on a lease or sale basis, there could arise the problem of competition for choice sites, the supply of which would probably at no time be plentiful. Intercity movement might also be impractical.

With the short life house there exists another significant potential which is closely linked to the characteristic of mobility, this is flexibility. There are two general kinds of flexibility that are of importance. One is called "structural flexibility," the other "interior space flexibility." Structural flexibility can be conceived of as a situation in which the overall size and shape of a house may be altered by the addition or subtraction of rooms or wings. Interior space flexibility is much more familiar, involving the division of a given amount of space into different combinations of rooms by means of the installation, removal, or shifting of a partition system. A combination of both categories of flexibility

in a single structure is, of course, possible. Structural flexibility contributes not only to mobility but also to a solution of the housing problems of the family cycle. As the average family expands and then contracts, the overall supply of space may, in a flexible structure, be fitted to the changing needs without the necessity and cost of leaving the neighborhood. Structure flexibility also has the virtue of enabling a family to buy as much house as it can afford at a time without giving up the lot originally chosen. While this latter approach is possible with conventional structures it is a more costly procedure. It is, moreover, not easy to locate conventional designs of good quality that can economically be put together in stages. Zoning ordinances may, of course, have minimum floor area restrictions that would at first hinder the introduction of this version of housing. Interior space flexibility has already made substantial inroads as a concept into the design of the modern restaurant, hotel meeting room, and public building. Its use in the home is still pretty much on a trial basis. Shiftable partitions still vary quite a bit in their performance qualities. Most operate on an accordion principle and a few are good sound insulators as well as contributors to visual privacy. None of these partitions, however, pretend to provide any sort of fire barrier. The adaptability of interior flexibility to the family cycle, changing seasonal needs for space, and changing tastes and basic ideas of room arrangement is no doubt clear enough.

From a broader community point of view there are definite advantages to the short life house. For example, there would no longer be the problem of blighted, out-moded housing hanging on the market. Prompt removal would be a much greater possibility. In the event that public acquisition of land occupied by this type of house was necessary for such purposes as public buildings, street widening, or expressways, the cost to public agencies would be materially reduced. A similar argument could be made for urban renewal. Renewal subsidies could be materially reduced or eliminated if short-life structures in an area were near the end of their life term or if they were the mobile type. In the latter case renewal acquisition costs might be con-

fined to land and to structure moving expenses. Even small commercial structures might be included in this conception of the mobile building and hence make the renewal process even more economical. It could be argued that if houses and small commercial structures of short life were mobile, neighborhoods would be more fluid, and therefore the renewal process would become a more natural one not requiring manipulation by public agencies. Short life and structure mobility would also increase the chance for more frequent redesign and modernization of the basic land plan in terms of the arrangement of streets, blocks, and lots.

Disadvantages and weaknesses, of course, exist in the argument for the short life structure and for the attendant characteristics of mobility and flexibility. We can dismiss the criticism of engineering feasibility because it has been assumed that this is a long look into the future. Realization is in large part dependent on the rate of technological advance in this sphere and on economic and institutional pressures motivating that advance. Most formidable of the obstacles to adoption of the short life concept is, undoubtedly, public opinion. While the introductory section of this discussion tried to show that attitudes toward housing and property are in a state of flux, there can be no reliance on the straight-line logical evolution of human attitudes and customs. Customs are notoriously inelastic and illogical patterns of action. There is every chance that in an age of increasing uncertainty and rapidity of change, we as a people may be more and more inclined to cling to those few objects which can give us the sense of permanence that we seem to cherish. If we are to believe the sociologists, a man's house has during the 1950's become more of a status symbol than at any other time in the past. For the very wealthy, housing was a badge of class early in the history of the nation. But for the upper middle class it assumed a similar role only within the past decade. Assuming that this attitude continues and possibly accelerates during the years to come, it is hard to see how the concept of the short life, mobile house can succeed in appealing to a market sufficiently broad to make the venture profitable.[15]

Mention has already been made of the great potential difficulty of forcing removal of structures of this type at the end of their life span. For example, it is unlikely that if a period of regional or national depression coincided with the terminal year of the structure an owner would be forced to give up his only shelter. By means of repair and replacement of a few lower cost items the owner would of necessity be forced into another replacement cycle. Local building codes would have to be revised drastically in order to make this type of construction possible. In view of the code problems already encountered by fairly simple forms of prefabrication the outlook is not so bright for more revolutionary housing forms.

Other troubles of present day prefabrication would be sure to haunt the short life house. Local labor unions would probably be much more antagonistic to the mobility element of the structure than to any other. In the union's view of things it might appear that mobility would undermine construction volume by virtue of the fact that when it came time for a family to buy a larger house they would add a standard market wing rather than build a new residence. Or in moving from one side of town to another they would take the present house along rather than build or buy a new one. Using this line of reasoning it is not hard to see how the local building contractors would line up on this question since not all of them could become short life home dealers. In contrast to the immobile forms of most present day prefabrication the mobile version of the short life home would also present difficulties for the land developer. There is some question as to whether he could continue to operate in a sale market. On the other hand if he shifted to a system of lot rentals he would be vulnerable to the same problem of vacancies as that encountered by the operator of an apartment building.

Value problems are not the least of the difficulties that would be engendered by this form of building. Mortgage lenders would be very fearful of this type of investment as they have been of prefabrication. Term of loan would be cut to mercilessly low levels and downpayments made very high The excessively short term of loan would, of course, be an emotional reaction not only

to the novelty of the construction idea but also the advertised fact that the house has a very limited life. From the mortgage lender's point of view as well as that of the real estate broker, short life, low cost housing may be thought of as damaging to values. Assuming that the short life house was enthusiastically accepted by the public, its low price would undermine the values behind mortgages held on conventional residences and would mean a lower commission per sale for the real estate broker not only on the new style residence but also the older conventional homes. This trend in property values would be a problem for municipal government because the tax base would be weakened, thus forcing an increase in rates that would be not only politically difficult to maneuver, but also damaging to the commercial and manufacturing interests of the community. In more extreme circumstances the mobility of this type of housing might from time to time result in the drainage of substantial numbers of taxable structures from one jurisdiction into another, thus leaving one of the jurisdictions in temporary financial difficulty.

Finally, there is the very considerable criticism that this housing form is not going to provide for the cost problems of most tenants. While many single family units are rented and while this construction form would be suitable to duplex, garden apartments, and row housing, it does not touch the multi-apartment field, which increases in prominence with increase in city size. It is only in such structures that it becomes economical to provide small amounts of floor space per unit at relatively low monthly dollar outlays. Housing expenditures at this level are, of course, an acute necessity for a great many families.

NOTES

1. Howard T. Fischer, "Prefabrication. What Does It Mean to the Architect?" *Journal of the American Institute of Architects, X* (November 1948), p. 220.
2. *Prefabricated Homes,* Commercial Standard CS125-47, 2nd ed., Prefabricated Home Manufacturers' Institute and U. S. Department of Commerce (Washington, 1947), p. 1.
3. The room size panel will, of course, have the window system already installed.

4. Burnham Kelly, *The Prefabrication of Houses,* The Technology Press of the Massachusetts Institute of Technology and John Wiley and Sons, Inc., New York, 1951, pp. 189-190.
5. Burnham Kelly and Associates, *Design and the Production of Houses,* McGraw-Hill, New York, 1959, pp. 94-95.
6. Arthur David Piper, "What's the Mobile Home Got That Home Building Can Use?" *House and Home,* Time, Inc., New York, August 1958, p. 94.
7. By a telescoping process mobile homes can now be expanded laterally and vertically up to two stories.
8. Site rents in trailer parks range on the average from $20 to $30 per month with electricity and laundry use included. The local governmental jurisdiction may levy a personal property tax on the trailer.
9. "Immobile Mobile Homes," *House and Home,* Time, Inc., New York, November 1959, p. 90.
10. Burnham Kelly and Associates, *op. cit.,* p. 225.
11. Sherman J. Maisel, *House Building in Transition,* University of California Press, Berkeley, Calif., 1953, p. 121.
12. Cities of the pre-20th century era were smaller on the average than those of today but much more densely settled. Their water systems, streets, and fire fighting equipment were less perfectly developed. Fire was a constant threat.
13. Window systems will probably need resetting by the end of this time period.
14. This includes items #4 and #5 from the cost table for conventional construction used earlier in the chapter.
15. It is significant that prefabricators are moving more solidly in the direction of luxury housing and away from the low cost field.

8

Urban Adjustment To Minority Groups

Introduction

Increasing urbanization in the United States has brought many changes and many problems. Among these problems are whole categories of social ills that are the product not only of urbanization but of our times and culture. Political corruption in American cities is not news. But of late such corruption appears to have reached a stage of organization and pervasiveness that makes it difficult to uproot. Often it is sufficiently within the law to avoid being called out and out crime. If our statistics and interpretations are correct, juvenile delinquency and certain types of crime against property are proportionately more prominent than ever before. These we are told frequently reflect the pressures of our accelerating materialism and competition for status which weaken family ties and set up impossible levels of attainment.

All these modern tendencies are symptoms of an alarming increase in personal disorganization which has stepped up the incidence of mental illness at a dizzy rate. Americans consume tranquilizers at a rate many times that reported by any other country of the world. To this boiling pot of social trouble and personal adjustment has been added in the last two decades a further unsettling factor, that of race.

As with our other social problems, racial difficulties are not new to the American city. They have, however, become dramatized to a greater degree since World War II. Many explanations are

given for the magnification of this problem. One is the simple fact that the migration of Negroes from the South to cities of the North and West has been in greater volume than ever before over a comparable period. This migration has been coupled with that of Puerto Ricans who, thus far, have located principally in New York City. The reaction of white city dwellers to racial change has in most cases ranged from uneasiness to outright fear or hate. Fortunately the average white attitude has tended more toward the former. In this country traditional ways of thinking about the Negro have had their roots in the early slave status of that race. At present our deification of conformity is certainly jolted by the fact of a color which cannot be brought into line with the dominant color. Economic competition continues to be a source of friction between the white and Negro. In the past ten years the competition has been not so much for jobs as for localized housing supply of moderate quality. The struggle on the part of the Negro and the Puerto Rican for this limited supply is providing us not only with a problem of moral adjustment but also a problem of changing city structure. Authoritative surveys indicate that the larger metropolitan centers are undergoing a dramatic change in their geographic-ethnic structure.

Established white households are moving to the suburbs while the vacated center is being taken over by non-white inmigrant households. There are many explanations put forward for this transition. One of the most prominent of these is the idea presented in earlier chapters of this book that central city residents are reacting to a number of irritants in their environment. Uneasiness about new neighbors of a different color or radically different habits is compounded by the noise, smoke, glare, and street dangers of the denser portions of the metropolis. These push-factors are complemented by pulls to the more open, cleaner, safer, and proper realms of the suburbs. Whatever the reasons it is clear that our cities are undergoing an ethnic structural revolution. If we believe that urban living is most significant under conditions of density far higher than those provided by the suburbs, we must look to the alleged causes of excessive dispersion in order to find the means of stabilizing if not reversing

it. Since race in many areas seems to be a prominent factor in this dispersive trend, the purpose of this chapter is to examine some of its effects, imaginary and real, on the modern city.

Perspective on our Current Minority Problem

In New York City Negroes and Puerto Ricans have increased by almost 250 per cent in little more than 25 years.[1] These two groups now number about 2,000,000—around one in every four New Yorkers. Between 10 and 15 per cent of the populations of such cities as Chicago, Detroit and Philadelphia are made up of Negroes. In the case of such quasi-northern cities as Washington and Baltimore the proportion is in excess of 20 per cent.

The change in the balance of whites and non-whites in New York City first appeared in the Fifties. New York reached the peak of its growth shortly after 1950. However, the special census of 1957 showed that, like many another American central city, it had gone into a decline. Over the seven-year span there was a fall of 416,000 in the number of whites. Their places were not completely filled by a rise of 320,000 in the number of non-whites.[2] Areas of New York most heavily affected by this net outflow of population to the suburbs of the metropolitan area were Manhattan and the East Side. Insofar as the next 25 years are concerned, it appears that the growth of the Negro and Puerto Rican population will continue as a result of high natural birth rates and immigration. While the main impact of Puerto Rican immigration has been on New York, there are strong indications that in the next few years cities of the middle and far west will begin to receive a much larger share of the total net movement. Other cities may well look to New York's experience with this special group and learn the nature of the problems of adjustment. Data made available between 1950 and 1956 show that Puerto Ricans have accounted for no less than 65 per cent and no more than 85 per cent of the migrations to the city in any one of those years.[3] In this period the largest movement was in 1953 when 51,800 moved to the city. The lowest was 1954 when only 16,100 arrivals were reported. As with most migrations the level and continuity of movement is largely dependent

on the business cycle. Therefore, as job opportunities become more widely available in other cities or, conversely, as they begin to fall off in New York so will the barometer of immigration vary.

In contrast to the character of immigrants to this country in the late nineteenth and early twentieth centuries, the Negro and Puerto Rican as citizens have complete legal mobility. For the Negro there is, moreover, no language barrier.

In part, the problem which the Negro and Puerto Rican present to continental American cities is the old one of assimilation. It is possible to look back to our minority group problems of fifty or seventy-five years ago and see that time and the process of familiarization of the minority with its new environment has softened or obliterated what at the time seemed to be insurmountable cultural and even racial differences. What parallels can we find with this past? What are the truly significant differences?

Evidence of the attitude of New Yorkers toward minorities is on record as early as 1819 when the foreign population was less than 4 per cent of the total. The Society for the Prevention of Pauperism was greatly agitated over the fact that: "A universal shock of commercial embarrassment has pervaded, and still pervades the continent of Europe. . . . Hence an almost innumerable population beyond the ocean is cast out of employment. . . . This country is the resort of vast numbers of these needy and wretched beings. . . . Many of them arrive here destitute of everything. . . . Many of these foreigners may have found employment; some may have passed into the interior; but thousands still remain among us. They are frequently found destitute in our streets; they seek employment at our doors; they are found in our almshouse, and in our hospitals; they are found at the bar of our criminal tribunals, in our bridewell, our penitentiary, and our state prison. And we lament to say they are too often led by want, by vice, and by habit, to form a phalanx of plunder and depredation, rendering our city more liable to the increase of crimes, and our houses of correction, more crowded with convicts and felons."[4]

The similarity between these complaints and those of the present against strangers and minorities is very great indeed. At that early time in the city's history there was no suggestion that immigration be restricted, because the dominant philosophy was one of optimism and and expansionism. But there was underlying apprehension concerning the process of adjustment to the characteristics of the new arrivals. It is particularly interesting to observe the conflict in the New York of 1870 between the established Anglo-Saxons and the immigrant Irish and Germans. As the more aggressive and ambitious elements among the Irish and Germans advanced in occupational status they quite naturally tried to improve their environment and social standing. Following an age-old pattern of social action, therefore, they tried to disassociate themselves from the newer immigrants and to imitate the Anglo-Saxons. Thus it was that in the never ending process of seeking out newer and better living areas the two groups, the new and the old, found themselves in rather sharp competition. What made the conflict particularly difficult for the established Anglo-Saxons was the fact that their "invading" competitors moved in groups. Therefore, resistance could not be concentrated against one or two individual families moving up the scale.

An interesting parallel between that time and the present is found in the fact that all of the family moves made by these groups in an effort to improve status were in the form of a negative reaction to the appearance of flats and apartments in their neighborhoods. They developed, as a result, a strong desire for the more spacious single family living accommodations of the outlying areas. The Irish and Germans were also in the position of being "pushed" by the newly arriving Italians. It was at that time the custom for the Italians to move into the rear tenements behind the Irish. When the Irish made as hasty an exit as they could, the Italians would take over the entire district.

The myriad nationalities that were entering New York in that period followed what might be considered a cycle of adjustment. Upon arrival they would settle with friends or relatives

for a short time. When employment was found they would locate modest independent quarters probably in the same locality as the friends or relatives. As their economic position improved over the years they would move to progressively better housing and neighborhoods which had been vacated by other groups on the way up the ladder. There was, of course, in social tandem with the pull of better living always the unremitting push of newly arriving groups. The New York experience seemed to point up what might be called general principles of urban assimilation and group movement. It appeared, rather logically, that duration of settlement as a rule increased mobility along lines just described. It also seemed generally true at the time that small groups were less mobile than large ones.

Since delinquency of different varieties is associated with new migrant groups, it is again significant to see how the New York scene of the late nineteenth century took shape in this respect. Handlin identified three broad contributing conditions to immigrant delinquency which are meaningful today.[5] The very process of moving a veritable sea of people into a very limited space resulted, quite naturally, in excessive crowding and slum conditions. These conditions, in turn, bred high rates of disease and mortality that helped contribute to family disorganization and hence to general delinquency. As has been so frequently true when migrant groups enter cities, their period of adjustment was both prolonged and complicated by the fact that they had come in a majority of cases from rural or semi-rural areas.

Inability of local government to adjust to these new conditions of urban growth contributed substantially to the incidence of delinquency. This was in part an outgrowth of the fact that urban government procedures at that time were too close to their own rural roots to be effective. Protection against disorder was largely ineffective. Police were poorly trained, poorly paid, and as a result corrupt. Government maintenance service standards did not elevate the morale of the population as streets were left uncleaned and mounds of garbage and trash were neglected for long periods of time.

Conditions of environment were not entirely to blame. Inability to make a personal adjustment had much to do with prostitution, drunkenness, gambling, general criminality, and juvenile delinquency. As expressed by Handlin these forms of delinquency were ". . . the results of the destruction of old habits and of the shocking effects of new conditions. The disruption of family ties and the dissolution of the authority of accepted values unsettled the norms of personal behavior and left the individual confused and, therefore, vulnerable at moments of crisis."[6] It is perhaps clear from this expression of conflict why it was that the second generation of these groups slipped so easily into delinquent behavior.

There is no doubt that at the present time we consider the Irish a completely assimilated and creative portion of our national population. However, in the mid-nineteenth century they were particularly prone to social disorders such as pauperism and crime. The stereotype was so complete that most people automatically thought of orphans as being Irish. In New York of the 1850's the Irish accounted for 28 per cent of the population but provided 69 per cent of the legal paupers and 55 per cent of the arrest cases. Germans, on the other hand, who were just as poor as the Irish, represented 10 per cent of the city's population at that time but provided a like proportion of the paupers and arrest cases. Blatant discrimination against the Catholicism of the Irish by native New Yorkers and other immigrant groups had much to do with the feelings of social separatism that contributed to the higher delinquency rate of the group.

Between 1870 and 1900 the Negroes of New York had developed into a small (60,000) but well established group. Extreme discrimination against them comparable to that of the South did not exist. They had firmly established themselves in the service trades and even had a small representation among the business and professional leaders of the community. On the whole they were much better off economically and socially than the average of recent white immigrants. Not until the large scale migrations of World War I and thereafter did the integration

problems of this group begin to assume the pronounced characteristics which they show today.

Many similarities and differences between the now distant days of massive immigration and the present can be noted. A few of these, despite their obviousness, are worthy of mention. At the present time there is the unique matter of color, both with some Puerto Ricans as well as Negroes, which was in no sense prominent in the migration adjustments of the past. Today we are lacking the same forceful differentiated nationalist or ethnic push from below which helped to move migrant groups up the social and economic scale. There is, in other words, no prospect of groups moving into our cities which, in any appreciable manner, can take a position below that of the Negro and Puerto Rican. On the other hand many of the language and custom adjustments that were so difficult for early day immigrants are by no means as great for Negroes from our own South. Despite this fact, movement of large minority groups across the face of the city is no longer possible on the scale of 75 years ago. Individual and small group movements seem the commoner pattern with the American Negro. The Puerto Rican is still too new to the urban scene to have developed any very definite patterns of movement and assimilation.

Some observers, basing their views on the long sweep of urban history, are of the opinion that the social disorders commonly attributed to ethnic characteristics are more realistically to be identified as symptoms of urban growth alone. Persuasive as this argument may be there exists a very real and formidable body of attitudes which appears to infer a unique character to the Negro situation.

Basis of Resistance to the Negro in American Cities

Earlier in this chapter it was pointed out that over a long period of time there has developed in this country a stereotype conception of the Negro which stems principally from his original slave status in the rural South. His emerging position as an urban worker and dweller has placed serious strains on this old con-

ception of the race. While we may be told that many of our beliefs concerning the Negro are fallacious or no more than prejudiced superstition, this does not eliminate them. Fact or fiction, attitudes held by whites in this country are the realities which must be faced in gauging not only the prospects of Negro assimilation into the urban scene but also the effects of his residence on the American city now and in the immediate future.

The social stability and financial solvency of our central cities is threatened by the accelerating tendency of minority groups, particularly the Negro, to settle near the urban core. Negroes who move to such cities as New York, Philadelphia, Detroit, and Chicago, from the Deep South are usually unskilled and without savings. Depending on the vagaries of state law, they can and do apply for relief in large numbers. To what degree this practice impairs their incentive to look for work it is hard to say, but in any event relief charges rise and must be borne by the central area taxpayer. The educational plant of the city is put under severe pressure by these migrants. Take, for example, a typical city elementary school district already at 500-pupil capacity. Heavy in-movement of Negro families with numerous children can more than double or triple the demand on the district in a year's time. And yet, the financing of additional school facilities is made difficult because of the fact that taxable property has not increased proportionately in terms of number of structures or value. The new families have doubled up with other families or friends or are occupying small apartments in buildings that have been converted, many times illegally, to receive them. Housing stock, because of such intensive use, tends to deteriorate and lose value. From a social point of view the city is weakened by the development of homogeneous minority neighborhoods which hold themselves apart from general community activity. This phenomenon is accompanied by the outward flight to the suburbs of established families better able to foot the large property tax bills which are developing. The exodus of financially capable families leaves an increasing burden on those less able to pay.

The Negro has also created tensions that have made the city a jungle of fear. This condition opens the door for organizations and situations which further weaken the city. Left wing groups and Communist Party sympathizers make political capital out of tension and if the opportunity arises create artificial crises. In some urban centers strong chapters of the National Association for the Advancement of Colored People will disrupt community calm and progress by pushing for the adjudication of exaggerated cases of civil rights infringement. As if this were not enough, conscienceless whites and Negroes persist in the reprehensible practice of "block busting." In this all too familiar operation the white speculator may sell a house to a Negro family in an all white neighborhood and then fan the fears of the established families with talk of a large scale Negro invasion. He then buys out the panic stricken whites at prices far below market, then sells to Negroes at well above market.

The effect of the Negro is believed to be particularly deleterious at the neighborhood level. Henry Hoagland, former member of the Federal Home Loan Bank Board and a former professor of business finance at Ohio State University, has maintained that a type of Gresham's Law is operable when races mix. He says: "When two or more incompatible groups occupy any given neighborhood, the tendency is for the group having least regard for the maintenance of real estate standards to drive out the other groups—a sort of real estate Gresham's Law. The infiltration of additional representatives of the dominant group operates to put a blight on the neighborhood as effective as the appearance of undesirable uses of land."[7]

Most texts on urban sociology have extensive sections discussing this process which they identify as "invasion and succession." An urban periphery neighborhood established by original home builders and owners may be invaded by a group of lower economic and social order as it ages and becomes engrossed by the city proper. Invasion will lead to the gradual or even precipitous outflow of the original inhabitants and ultimate succession by the invading group. Lower standards of property

maintenance and lower economic strength on the part of the invading group will push properties down the quality scale even faster than would be warranted by the age of the structures involved. As indicated in the discussion on New York's history, an initial invasion makes successive invasions easier and more rapid. Where invasions of a neighborhood involve only the Negro, a higher income group of this race may well be succeeded by waves of other Negro families ever lower in the economic scale. It will be recalled from the comments on community-wide effects that Negro invasion can so overtax a neighborhood elementary school that its quality and desirability fall very rapidly. The school is, of course, one of the principal stabilizers of the neighborhood. When it starts to decline the neighborhood in its original form will weaken and change. Other service elements of great importance to the neighborhood such as parks and shopping facilities are likely to suffer the same fate as the school and will, therefore, contribute their negative weight to the general sinking state of the neighborhood.

The very real fears of white persons toward the presence of Negroes in a neighborhood are quite familiar:

(1) Fear on the part of many white people of losing social caste by living in a neighborhood with Negroes.

(2) Fear that the nationality-religious homogeneity of the neighborhood will be broken by the presence of Negroes. This fear exists not only in the minds of individuals but also in the minds of the leaders of the religious groups and even nationalist societies involved.

(3) Fear of using such facilities as schools, parks, and stores in common with Negroes.

These fears merge with those of the individual property owner toward the protection of his property and cannot be sharply distinguished from them. No doubt the most prominent fear of the home owner is that he will suffer loss of investment value in his property. The basis for this fear lies partly in the belief that he will lose social status by living in the same area with Negro families. General support for the fear that a par-

ticular property value will fall is found in the sequence of events that develops with the entry of Negroes. As the rumor of Negro entry spreads there is likely to occur a flood of property offerings for sale accompanied by a rapid falling off in buyers. This may occur because of the fact that only one Negro family is buying at the time and no other whites are interested in buying into such a neighborhood even at drastically reduced prices. Lack of buyers may push asking prices even lower. Values may be even further weakened by discontinuance of general maintenance and repairs. The attitude of mortgagees will add impetus to the decline. Maturing loans may not be renewed or if they are, will carry much stiffer terms. Loans for repair or expansion may be refused altogether. As Negroes continue their movement into a neighborhood lack of maintenance by the whites will be compounded by the Negro family which is considered by the white to be neglectful of his property by nature. Excessive overcrowding which is very likely to accompany Negro entry will speed deterioration and value decline even further.

Generalized attitudes of whites toward Negroes. Charles Abrams lists a number of common conceptions from which a few have been selected for discussion.[8]

One of these conceptions is that Negroes and whites do not mix. This vague attitude seems to have definite meaning for many people. To certain individuals "mix" suggests association in a social sense. Negroes are, therefore, not the sort of people whom whites would ask to dinner and a social evening. Certainly, it also suggests the undesirability of the association of children of the respective families. A combination of fear of loss in social status, unfamiliarity with what may be considered the unique customs of the Negro, the conspicuousness of color, all discourage the white from free mixing. From yet another point of view mixing may be tolerated if it is interpreted as a close employer-employee association where the Negro is in the role of servant, chauffeur, or building superintendent. Here the difference in status is clearly recognized and the mixing does not matter. Mixing in a civic sense may be accepted in certain areas. This sug-

gests that joint participation of whites and Negroes on community committees may be tolerated where the subjects under discussion are no more controversial than how to keep the streets clean, how to make the parks more attractive, or how to bring down taxes. But then again, for some, mixing is understood in a nuptial sense and finds expression in the familiar question, "Would you want your daughter to marry a Negro?" The customary negative reaction to this query is perhaps the most violent of any and frequently obscures concessions that have been made on other versions of mixing. This entire attitude pattern will become of particular significance when the discussion turns at a later point to the issue of interracial or open-occupancy housing.

Prominent among the attitudes of whites toward the Negro is the belief that Negroes are dirty, neglectful, and of slovenly habits. As a consequence they can in very short order spoil the appearance of a neighborhood. This point of view is based in part on observation of Negro neighborhoods, in part on the environmental background of those who have recently migrated from the rural south. A cursory inspection of any Negro neighborhood, it is said, will reveal housing which is in an advanced stage of dilapidation. Evidence usually includes composition siding which has begun to peel away, poorly patched roofs, tottering chimneys, broken windows, yards which are either worn bare of vegetation or are a morass of weeds. Trash and broken glass litter the streets which are alive with screaming half clad children who are only slightly dirtier than their parents lounging listlessly about the entries to their neglected homes. Many feel that this is the basic nature of the Negro, who would rather invest in a flashy automobile and a television set than soap, paint brush, hammer and nails. Primitive conditions of rural living have played their part in the development of these habits it is maintained. Absence of inside plumbing and running water in backward farming areas make the bathrooms, washer, and toilet strange artifacts to these people whose reaction is one of either no use or misuse. Garbage and trash were no aesthetic or health problem in the share cropper's cabin yard. There were

few to observe and plenty of space for the absorption of such offal. In view of these conditions how can a white neighborhood with completely different standards of order and cleanliness be expected to withstand the invasion of people with these habits?

Another attitude which is not encountered with as great frequency but has persistence is that the Negro minority is always going where it is not wanted. There seems to be an inconsistent stubbornness in the Negro which prompts him to force his way into better districts despite open hostility. Why would any reasonable person wish to live and rear a family among neighbors who not only disapprove but scorn his presence? In the larger metropolitan areas there are already extensive, long established Negro neighborhoods with schools, shopping facilities, and social activities which are suited to his tastes. Is it perversity, a crusading zeal, or ignorance which prompt him to leave such well adjusted conditions for strange, unfriendly areas? We are certainly told often enough that the Negro would prefer to live among his own kind as do the whites. Solid Negro areas seem to be evidence of this statement. Then why must he play the role of spoiler? How much happier everyone would be if each race would keep to its own neighborhood and thus eliminate the nerve-searing tensions which accompany the movement of the Negro out of his proper place in the geographical and social structure of the city.

A final attitude which is held by some urbanites but is strongly opposed by others is that the central city is the place for the Negro and that he must at all costs be kept out of the suburbs. The reasoning here is that the central city, the larger ones in particular, have traditionally been nationalist and racial melting pots. It is, therefore, their function to care for minorities. Here are found homes and apartments that all Negroes can afford. Their friends and neighbors are established there. They are not conspicuous in this part of the metropolis and are, in fact, more easily accepted by the whites who live there. Among those who reason in this way there is a sort of sub-group which takes a more fatalistic stand. This group maintains that relations of

Negro and white on the urban scene are very much like a war. The battle of the central city has been lost they maintain, therefore, this part of the metropolis should be abandoned to the "enemy" and a strategic retreat made to the suburbs where a final stand can be made. Both factions, therefore, agree that the suburb must be kept sacrosanct to the white race. The suburb represents the means and area of escape from all that has been found objectionable in the old core city. The Negro, is, of course, one of the objectionable elements. The intensity of suburban resistance is well documented in such cases as those of Dearborn, Michigan and Cicero, Illinois. Few would contradict the statement that the Cicero incident of July 1951 represents the extreme expression of suburban resistance in the North. Here was the classic case of a single Negro family entering an all white suburb of lower middle class rank. Although the Negro was a war veteran and the apartment a modest $60 per month unit the public reaction was volcanic. Mobs vandalized the apartment building causing extensive damage in not only the Negro's apartment but also those occupied by whites, who had hurriedly moved from the building. State militia finally brought order from the chaos.

Devices Used to Exclude Minorities

There are many ways in which the hostile attitudes of whites toward Negroes are formalized. Among the more prominent techniques of resistance are those briefly described in the following paragraphs.

One of the more prominent devices in current use against the Negro is the neighborhood improvement association. These associations may also be labeled "property-owners' associations," "home-owners' associations," "improvement clubs," "civic associations," and the like. It must not be assumed that these organizations exist only to resist the Negro. On the contrary, most of them were formed to facilitate general civic improvement such as clean streets and yards, better parks and schools, and protection against the intrusion of "improper" land uses such as nuisance industry. However, with the appearance of minorities,

and particularly Negroes, in American neighborhoods, one of their emergency functions became that of either preventing the entry of "incompatible groups" or driving them from the neighborhood. The associations conduct educational campaigns to show owners the "perils of invasion" and to persuade them not to sell or rent to undesirable groups. By way of creating examples the association may in extreme cases subject the person, who has sold or rented contrary to the "rules," to violence and intimidation. It is, moreover, one of their jobs to discourage builders who plan to construct housing for minority groups. Associations are particularly effective in their influence over city councils. They will, when the issue is highly controversial, send large and highly vocal delegations to city hall. There is no doubt that they have great political strength, particularly when several within a community federate.

Policies followed by builders and realtors are also effective in restricting the spread of Negro families throughout the community. Builders' techniques of restriction are simple enough. If approached by a Negro buyer, they may state quite frankly that it is against their policy to sell to that race. Or the method may be more evasive and involve either an excessive upping of the sale price or some statement to the effect that all dwellings have been sold. So effective is this practice that after a time within any one community, Negroes will no longer put in an appearance at developments which have just been placed on the market. Realtors are in a much more strategic position to control the housing location of Negroes than is the builder. Clearly this is because the realtor is involved in a high proportion of the sales of used housing that the Negro is most likely to try to buy. He is, moreover, often involved in the management and leasing of rental properties. There is, in addition, the fact that realtors are frequently conceived by the public at large as professionals in matters pertaining to city growth and the arrangement of land uses. As a result the realtor's opinions toward minority groups are widely respected. For many years the official code of ethics of the National Association of Real Estate Boards took a militant

stand against the involvement of member realtors in sales to incompatible nationalist or racial groups. In 1950 the code of the Association was softened somewhat so that it now reads:

"A realtor should never be instrumental in introducing into a neighborhood a character of property or occupancy of any race or nationality, . . . which will clearly be detrimental to property values in that neighborhood."[9]

Local boards, however, are likely to follow the more restrictive line of the past and discipline members severely who violate it. Suspension from membership entails loss of the right to use the term "realtor" after the broker's name. This is of importance because there tends to be a club arrangement in most communities in which realtor helps realtor and the financing houses give the best terms to members of the "fraternity."

Banks and other mortgage lending institutions are also in a very strategic position to control the acquisition of property by minority groups. This is easily accomplished by rendering the terms of lending on a stricter basis to Negroes than to whites. Frequently funds may be refused entirely by a bank which feels that the security of loans which it has made on properties surrounding that desired by a Negro will be endangered. The bank anticipates not only a fall in the value of its security but a decline in the incentive of neighboring white occupants to keep up mortgage payments.

Within the past 20 years various types of large scale public construction projects have developed in a manner which has tended to displace extensive concentrations of Negroes living in established colored neighborhoods. Freeways which, as they approach the centers of metropolitan areas, cut through extensive districts of old housing occupied by Negroes have displaced large numbers of families. Urban renewal projects have gone the furthest in disrupting Negro neighborhood stability. Dozens of city blocks in a single district may be cleared at one time. If the project is to receive federal assistance then a relocation program must be set up which is required to find suitable housing accommodations for those whose homes have been razed. The

total effect of these public building activities is mixed, at least in terms of locational control. There are those who hope that displacement, which can occur on several successive occasions to a single family, may so frustrate the Negro that he will leave the community. On the other hand there may well occur the substantial dilemma of relocating large numbers of Negro families in established white neighborhoods or building for them special housing developments public and private.

There are a number of miscellaneous techniques in existence for the exclusion of Negroes from established white neighborhoods, no one of which in any sense dominates the system of exclusion but is sufficiently important in the areas affected to make comment appropriate here.

While the restrictive covenant has been somewhat eclipsed as an exclusion device since the U. S. Supreme Court decision of 1948, there are still some special versions and variations which are very much alive. What is called the "Van Sweringen covenant" has been in use in Cleveland for a great many years. This covenant form prevents the sale of property without the consent of the owner of the original undeveloped tract. This avoids the difficulty encountered in many covenants of having multiple successive owners decide upon the advisability of sale.

The Van Sweringen covenants have in some cases been supplemented by another approach which involves joint consent for building. Under this arrangement the consent of five adjoining owners must be obtained before the land will be sold for home construction. As might be imagined this is a much finer sieve than the "original owner" type of covenant.

A variation of the joint consent for building device is the joint consent for sale. Here ten adjoining owners must agree to the sale or the seller forfeits $500 in damages. This device is, of course, even more effective than building consent in that a buyer must be approved before purchase of vacant land, let alone construction of a home. There is some question, however, whether or not the damage clause would be sustained in the light of court decisions of the Fifties.

Under the leasehold system an occupant leases the land for 99 years. He may not sell the building standing on this land without the consent of the organization which controls the subdivision. Another stipulation in this system requires that before a prospective purchaser can qualify as a lessee he must live in the area for at least a year.

When the cooperative plan is employed for the management of either homes or apartments it is possible for the directorate to determine the persons who shall originally be admitted to the coop. Occupancy can be controlled over the life of the coop development by decisions of the directorate relative to resale of any one of the living units.

There are at least three rather common methods of deed manipulation which can be employed to exclude unwanted groups. One of these is the reversion clause. Here the deed will specifically provide that if a buyer of a house and lot should sell to some family of a minority mentioned in the deed then the title to the property will revert to the original seller. Thus both the minority family and the person selling to them are penalized. The other deed arrangement involves an escrow agreement. In this situation the deed to a particular property is deposited with a third party. The purpose of doing this is to guarantee against the violation of a racial covenant or clause in the document. If sale or rental of the property were made to a family of the race mentioned it would be up to the holder of the escrow to determine the extent of violation of the covenant. It is assumed that if violation had occurred the escrow holder would hand the deed back to the seller. The third method of using the deed to accomplish exclusion is by use of the option agreement. Under this technique the seller of a particular property retains the option or right to buy the property back if he feels that undesirable racial elements are prospective buyers. In the case of the Woodlawn Conservation Corporation of Chigago such options provided that the corporation would purchase at an increase in price of 2 per cent up to $500 above the price offered to the seller.[10]

Clearly this is a formidable armory and even attack on one or two of the devices by the courts would still leave an ample backlog.

Now what is the current status of racial exclusion under two forms of government control, namely, the Federal Housing Administration and urban zoning? Dating from the first racial zoning ordinance put on the books by Baltimore in 1910 the usual approach was to make it illegal for both Negroes and whites to occupy houses on a street in which the majority of houses or dwelling units were occupied by members of the opposite race. It was not until 1917 that the United States Supreme Court declared that racial zoning ordinances were unconstitutional. It is, nonetheless, still possible to control the spread of minority groups within a city by this device. In Pennsylvania, for example, zoning was employed to make difficult the erection of cooperative housing developments in "desirable areas." While this was a blanket type of use restriction it could be used selectively only against coops admitting Negroes. Somewhat more refined techniques of anti-Negro zoning include the use of the lot area device. In cases of this kind the written ordinance will state that the minimum lot size allowed is one acre. However, if a builder who plans to sell exclusively to a white clientele approaches the zoning commission and asks for a variance allowing traditional sized lots it will be granted. On the other hand builders who wish to make open-occupancy sale will be told that the law must stand as it is written. Restrictions of a similar type may include minimum expenditure levels for the house or may require that the structure possess an excessive square footage.

Zoning has also been used as a means of placing physical distance between a white and Negro neighborhood. Often such a buffer will be composed of a strip zoned for commercial use only. Or the situation may be one in which the natural area for peripheral expansion of a Negro neighborhood is eliminated by zoning it for industrial use only. Aside from zoning controls a city may also exercise its power of eminent domain to acquire for public park purposes any area in which

housing construction for Negroes is contemplated. The community may, of course, never actually go to the expense of developing the area as a park. Cities are also able by means of administrative devices to contain the spread of Negro population. Building inspection departments, for example, may make very rigorous inspections of premises occupied by Negroes in a dominantly white area. They can locate violations which either may be costly to correct or might even involve closing of the structure. In a similar manner the assessor's office can play a role in the exclusion process by raising the assessment on a Negro occupied building to ruinous heights. Protests to appeal boards and the courts would as a rule be too expensive for the average Negro family.

The F.H.A. had at one time a section in its Underwriting Manual which recommended strongly against the insurance of mortgages on houses that would be occupied by minorities such as Negroes and other non-Caucasians in neighborhoods that were dominantly white. Operated as a risk calculating agency the F.H.A. believed that mixing of inharmonious groups would hurt property values and weaken the incentive of white mortgagors to keep up payments. This would mean, of course, that demands on insurance reserves of F.H.A. would be greatly increased and the security of that reserve jeopardized. However, as a consequence of continued pressure from civil rights groups and the Attorney General the F.H.A. in February 1950, did an about face and announced that it would not insure mortgages on properties which carried restrictive racial covenants. F.H.A. appraisers, however, are not specifically prevented from rendering judgements which reflect the earlier view of race mixture in residential neighborhoods.

Effects of Exclusion and Segregation Practices on the Community Economy and Structure

The balance of this chapter reflects a point of view directly opposite to that presented in the preceding pages. Keep in mind that the remarks which are aimed at the anti-Negro view do not pursue the moral or legal path for any great distance but focus

on the meaning of exclusion and discrimination to the general economic functioning and development of the American city.

Where racial segregation is prominent within an urban community economic penalties to the community at large are certain to develop. For example, the fact is often disregarded by whites in general and city officials in particular that a fairly significant percentage of the Negro population in at least the larger industrial cities have middle class incomes. In spite of this fact these families are forced to live in slums and blighted areas where individual residences are of very low value. The city treasury would gain substantially if these families were allowed to build housing commensurate with their incomes and pay property taxes in proportion to those values.[11] Somewhat the same line of reasoning can be applied to the lower middle income groups among the Negroes. Because of lower incomes and the simple fact of physical shortage of housing space open to their race, many of these families live doubled and tripled in the same housing unit. If exclusion were not practiced via either lack of building or intentional overpricing for this segment of the Negro population they could afford independent low cost apartments and modest homes. Clearly these would represent important additions to the tax roll and would help to support the cost of special public services, such as relief and health, which are so necessary to the lowest income groups whether white or Negro.

While on the subject of income it is pertinent to our argument to point out that job discrimination also influences the size and impact of the larger municipal budgets. If Negroes as a group were allowed access to the entire job market according to their abilities and were not relegated, in the main, to the menial service trades, municipal savings would be effected in the aforementioned categories of relief and health. It is also a fact that the pressure of demand for public housing units would be substantially lightened and the cost of this program to the city thus reduced. Other positive implications for city finance that would be sure to burgeon from an improved economic position for the Negro can be imagined by the reader.

Labor force stability and, as a consequence, industrial productive efficiency can be undermined by housing discrimination and neighborhood exclusion practices. This was dramatically demonstrated during World War II when workers began to leave critical war production areas as a consequence of housing shortages and towering rents. Uncertainty among those who remained stimulated the absence rate and reduced the productivity of those on the job. While the critical housing situation affected both white and Negro at that point in history, the parallel with the Negro's present condition is almost identical, and with comparable consequences for some industries.

Yet another restraint placed upon the efficiency of the urban structure by segregation of the Negro, or, for that matter, any minority group to a particular sector of the city involves political considerations. Because of segregation the group thinks of itself in racial terms first and only secondarily in community terms. Hence the neighborhood tie with the community, which is customarily weakened as urbanization of an area grows, is further undermined by this specialized effect. This takes place at a critical point in the historical growth of cities when a maximum of citizen participation, understanding, and sympathy with public issues is required if the city is to adapt both to the impact of technology and to the revolution in the culture of folkways which is molding it. Weaver makes a solid point here concerning the political and social isolation of these areas. He emphasizes the fact that these ghettos are "a civically neglected area" in which vice, crime, and underworld activities thrive on the anonymity which they can gain there. Consequently, the politicians of these areas—instead of having a voice in government which might improve the economic and social status of their constituents—are paid off in petty patronage and "protection." This situation gives further power and prestige to underworld leaders.

Many major metropolitan centers are not aware of the fact that they are losing out on badly needed public improvements because of segregation. One industrial city of the Northeast which was badly in need of a medical center, express highways, and central area parks had to defer them because their proposed

sites were occupied by dense Negro slums. Comment has already been made on the manner in which desperately needed housing and industrial renewal projects are blocked by discriminatory practices.

The white majority is certain to suffer in residential transition areas where Negroes are beginning to enter. We have already seen how mortgage lenders are certain to make their loan terms stricter or to refuse outright the renewal of mortgages in such areas. Or it may be that the white owner is induced to sell by some high pressure operator when he would much prefer to stay in the neighborhood.

It is obvious that the Negro suffers far more from segregation than do whites. Thus the Negro family receives less housing value for the same price than do whites. His share of substandard housing is the greatest in the community; his share of municipal services for the same property tax is the lowest. More Negroes are forced to borrow mortgage money from individuals than are whites. Interest rates demanded by individuals are higher and the term shorter than those offered by regular lending institutions. The nature of the general slum environment in which the Negro is forced to raise his family is all too familiar in its toll of disease, tension, delinquency, and generally lowered morale.

Returning now to a discussion of specific effects of segregation on the city, its quality and functioning, some separate comment is desirable on the impact of urban renewal projects. It has been pointed out that these projects are, sometimes, not carried out because there is no space for relocation of families in the area to be cleared. It is, however, true that clearance many times takes place regardless of that fact. Many displaced families, by locating their own quarters, avoid Federal relocation requirements that the substituted housing be of standard quality. This means that many Negro families crowd into whatever ghetto or transition district remains surrounding the cleared area.

Such a pattern of settlement is bound to result in even greater crowding than before. Excessive crowding will accelerate the deterioration of the area into which the displaced families have moved, making of it in a very short time the sort of slum that

will make it also eligible for clearance. And so these cancerous conditions can, over time, move through the body of the central city, causing it to sicken and lose the life blood which made it at one time a viable community. It will, in truth, become a gray area. As a rule central area clearance has reduced the total supply of housing for the lower income groups. Whether the clearance was for urban renewal housing or public housing, densities were often substantially reduced. If the objective was renewal housing this meant rents at middle or upper income levels, in short nothing for the low income displaced family. If the use after clearance was to be public housing the low income family was assured of a much improved quality of shelter.[12] Unfortunately public housing is not the commonest form of re-use after clearance.

While zoning and city planning are often used as a means of confining the Negro population they are, however, devices that can backfire and damage community welfare. The practice of using a commercial strip as a protective buffer may have several damaging results. For one, the buffer may be in a completely inappropriate location for commercial use. Since it is zoned commercial *only,* large sectors of the buffer may stand vacant for long periods of years representing a substantial dead land property tax loss. Because these buffer zones are usually long string street corridors they tend to attract marginal commercial operations of low value, which, while they do not contribute much to the local tax base, can impair the profitability of the community's better established commercial operations.

Similarly, land which is zoned industrial *only* can have insidious effects. Aside from the question of the suitability of the tract's location for industrial purposes, it must be kept in mind that if it is of sufficient size its perimeter may touch potentially high grade residential land which could conceivably be blighted or retarded in its development by the presence of the industrial zoning. Then too, the presence of the industrial zoning may commit the municipality to the installation of costly public services which it had not envisaged at the time of zoning for race control purposes. In the broader sphere of land design this same line of

reasoning is likely to reappear. Expressways, boulevards, and green belts, while often necessary and desirable in a city, can be perverted to race exclusion objectives. As with zoning there can arise a substantial question of suitability of location for maximum efficiency. Using an expressway as an example, a serious question might be raised concerning the advisability of allowing the route of construction to swing several blocks one way or another in order to provide a barrier at the present limit of a Negro neighborhood. This might involve several extra million dollars and have the further result of complicating the traffic flow.

It is quite clear to the general observer that discrimination on the basis of race is but another stimulus to the development of the homogeneous neighborhood. Heterogeneity on the other hand has always been considered one of the principal virtues of urban living. But within the past 40 years there have developed a number of tendencies, social and technological, which have reversed this situation for a significant proportion of the population of large and middle-sized cities. With increasing homogeneity we tend more and more toward the sort of wholesome insipidity and dullness which characterizes the American suburb.

The effects of this trend on our democratic values and our vitality as individuals has been treated at length by the sociologist. However, from the standpoint of proper city development there are also implications that should cause us worry. In aesthetic terms homogeneity gives us an architectural uniformity which is truly deadening. It is in a way strange that this phenomenon should be developing in such a rapid manner just at a time when architects and city planners are becoming more aware of the cityscape and the profile of the city. It may be, in part, because this technical interest, thus far, extends only to the central portion of the metropolis and not so much to the formative suburban areas where progressive design results could, actually, be more quickly realized if it were not for the maze of jurisdictional curtains which keep the area planner out. In addition to the matter of aesthetics there are very real questions

that can be raised relative to the association between homogeneity and value or homogeneity and physical condition. The physically and socially homogeneous neighborhood has almost no ability to adapt to change over time. Lacking a range of family age groups, of occupational classes, and of at least racial seasoning it is certain to reach the end of its life cycle without necessary regeneration from within to assure continued life. It is perhaps already clear what effect this situation would have on private investment values as well as public assessed values in a neighborhood area. Abrams makes an appropriate observation on this entire matter of homogeneity and integration when he says that homogeneity of an area has certain advantages for a minority in that it makes it feel more comfortable. It is, however, as improper to make assimilation compulsory as it is to make segregation compulsory. What we ought to insure in every American community is that racial composition of neighborhoods is the result of voluntary action. What we must have both for the sake of social justice, and an efficient economical city with aesthetic verve is the opportunity for free entry, exit, and circulation of the peoples within it.[13]

Effect of Race on Property Value

Over the years, discussion of race, housing, and city development has inevitably led to the question of the effect of race, especially the Negro, on property value. In the earlier parts of this chapter a summary of the thinking on this subject was presented. The overwhelming majority of opinion was, of course, that values of housing are adversely affected when a Negro family or families enter a neighborhood. This entire question has taken on added importance since World War II for two reasons. While migrations of Negroes and Puerto Ricans into many of our northern and western cities have reached new highs, a rapidly increasing proportion of the Negroes, in particular, are attaining income levels which put them potentially, into that segment of the housing market which is found in some of our better large city suburbs. Thus we are witnessing both racial population and economic pressure which should cause

the established residents of white neighborhoods to show great interest in the effects of racial movement into their midst. That this integration is inevitable seems proved not only by the physical need for space and the economic means to buy it but also by the current trend of Supreme Court decisions and civil rights legislation. Whether the substantial and numerous subterfuges available will continue to be employed to subvert these laws and decisions will in part depend on the potential for change in attitudes toward the effect of race on value.

The entire subject of race and value has been debated for years. But only since World War II has there been any evidence of progress toward reliable conclusions. In the past a great part of the difficulty has arisen from the fact that there are so many factors other than race which influence value that it is extremely difficult to sort out those particular value effects that can unquestionably be attributed to the presence of a racial minority. Just as an example of the complexity of this pattern of influences let us keep in mind that before we can say that one social group affects values favorably and another unfavorably we must know and interrelate:[14]

(1) The social and economic status of the minority in question at a particular time.

(2) The numbers of the minority in relation to the numbers in the majority group.

(3) The social and cultural level of the minority.

(4) The capacity of the minority for social improvement and assimilation.

(5) City size and the physical condition of its neighborhoods.

(6) The pattern of minority group distribution.

(7) The nature of the current minority stereotype.

These are but some of the variables which must be taken into consideration in reaching a conclusion on the race-value relation. A more specific and simplified example of the frequent confusion of cause with effect is pointed out by Anthony Downs when he says:

"Where racial transition is accompanied by increased density or lower levels of income and occupational status the effects of these factors on property prices cannot be analytically separated from the effect of race *per se*. This intermingling of effects may lead people to 'blame' racial change for results actually caused by other factors. For example, in some cities racial transition is usually accompanied by conversion of old single-family dwellings into multi-family occupancy. This causes a rise in population density and rapid physical deterioration of the converted properties. The whole neighborhood becomes downgraded and even well-maintained homes still used by only one family decline in price. Such declines are frequently attributed to racial change; whereas they are really caused by the higher density and lower economic status of the incoming population."[15]

On the psychological side, what has been called the "self-fulfilling prophecy" in human affairs should be noted. A pertinent example of this pattern of human behavior is to be found in the actions of families immediately following rumors that Negroes are to move into a neighborhood. We observe what is a "belief-cause-effect-and belief" phenomenon. The white homeowners sincerely believe that the arrival of Negroes will cause neighborhood values to drop. The panic listing of their properties for sale floods the market and causes sales to be slow and low in price. This situation convinces the listing owners even more that values are lowered by Negro intrusion. Their experience is added to the mound of evidence supporting the belief.[16] As the originator of the concept of the self-fulfilling prophecy puts it: "The . . . prophecy is, in the beginning a *false* definition of the situation evoking a new behavior which makes the originally false conception come true."[17]

How to break this vicious circle of false belief it is difficult to say. Probably if Negroes in the upper and middle income groups were generally allowed entry into all white neighborhoods of good quality within a city there would be no overcrowding and neglect of maintenance. Broad evidence of this sort would destroy the stubborn belief that where Negroes go deterioration is inevitable.

In Youngstown, Ohio heated local discussion over the proposal for a racially integrated public housing project caused the mayor of that city to ask the Fair Employment Practice Committee to make a survey of the facts pertaining not only to project integration but to general conduct of Negroes in relation to housing. Some of the findings were as follows:

(1) The average Negro tenant takes as good care of his property as other tenants of the same economic status.

(2) Racial discrimination and prejudice rather than race is the cause in most instances of Negroes living in substandard housing.

(3) There are numerous examples where residences in racially mixed neighborhoods have been sold to both white and Negro purchasers at prevailing market prices or better.

Taking these conclusions and the preceding remarks of this section as a point of departure let us examine in somewhat more detail the evidence which surrounds the claim that inferior maintenance is one of the important causes of the decline in values that is brought about by the Negro. Downs, as well as others, has called attention to the close association between low income and substandard housing. It is not to the point to say of the poor and of Negroes in particular that they are lazy and that with a show of ambition they could improve their position in life and in the housing market by many degrees. If lack of incentive in the poor in general is considered a cause of their condition the degree to which it is an effect must also be examined. An environment of deteriorating homes, conflicting uses, dirt, delinquency, and hopelessness may act as a spur to some but as a millstone to many, pulling them even lower into the quagmire of social, economic and mental depression. For the Negro this general pattern of depression is compounded many times over by the discrimination which is shown against him by the community at large. If he is to improve the maintenance of his home or find a better apartment he must have greater economic means. But the attitude of the community dictates that his job will be relatively menial, thus forestalling any very significant improvement in his position. However, the cream of

the jest is the fact that even when he is financially successful by the standards of the white world he cannot go far in terms of a better home in a better neighborhood. He is not inclined to build in the sweated ghettos but at the same time the possibility of moving into even a second-class white neighborhood is very low indeed. Hence, it is little wonder that the lower class Negro is cynical of the future and seems to give the impression of not caring.

Social scientists who have investigated the before-and-after conditions of Negro entry have much to tell us that is pertinent to the question of maintenance. The type of neighborhood which, in any large city, is likely to be open to extensive Negro settlement is certain to be in an aging, transitional area. Enumerate in your own mind the cities which you know fairly well and you will find this to be true. Rotting water front locations as in Cincinnati and Buffalo; the decaying cores of Chicago and Milwaukee; the rail yard sectors of almost any city; these are the neighborhoods that are well along the downward sweep of their life cycle when the Negro moves in. With vacancies high and resistance low in such areas the Negro can make an easy and relatively cheap initial entry. In the smaller cities he may be able to buy, for the first time, a rundown home of his own. But in the large metropolitan centers he will rent from an absentee landlord. In short the area just before or at time of entry is likely to be one of marginal speculations, an area filled with flat buildings, run down hotels, and tenements with blighted commercial uses on the first floor. Most of these properties have either gone through the investment wringer many times or have been purchased, fully depreciated, then sold successively to a long line of operators. When a property is managed in these circumstances only emergency maintenance is attempted and this as a rule only after repeated tenant complaint or code conforming orders. Money put into the building will not be spent on the things that show and make for a superficial impression of good care like paint, new siding, replacement of cracked window glass or rusted down spouts and eavestroughs. Patching is the most that can be expected in these cases. Dollars will be devoted

only to emergency repairs of the plumbing, heating, and wiring. Replacement of any one of these systems will be the rare exception. Neglect of the area by city departments contributes to the impression of slovenliness on the part of the building occupants particularly where garbage, trash, and street cleaning are involved.

With this pre-entry background established, the inmovement of Negro families compounds, in some respects, the problems which have existed before. Negro families are likely to arrive in such large numbers that the housing of the area simply lacks enough dwelling units. So, by means of conversion more units are squeezed from the existing space. Even this may not be enough and two or even three families may be squeezed in turn into many of the tiny units. Shortage of funds, discrimination, and fear of a new environment will contribute to this excessive overcrowding. While the consequences of this overcrowding have been stressed before, their relation to maintenance is possibly not so clear. Although deterioration is accelerated, net revenues may rise to delightfully dizzy heights for the property operator. His policy of neglect nonetheless remains about the same. In fact the Negro's weak bargaining position is of great benefit to the slumlord. Tightly segregated as he is to the district the Negro tenant cannot protest very loudly against rent increases, nor can he be overly insistent that repairs be made.

Since most cities, up until very recently, are very lax in checking building and housing code regulations within slum areas, both legally required repairs and excessive crowding are likely to go undetected and uncorrected almost indefinitely. In these circumstances it is easy to see how landlord neglect breeds tenant neglect of property in a cumulative process of decay combined with exploitation. Recent case studies of the Puerto Rican immigrations to New York document much of what has been said thus far.[19] Here the process of structure conversion has taken a somewhat different form. Apartments and flats have been shifted over to an individual room rental basis and from unfurnished to furnished. In shifting to the furnished room basis

the rent paying period will usually contract from a month down to a week. Adjustments of this type in both payment period and services push the per room revenues up to far greater heights than existed before. It is easy to see how tenancy on a room basis under week to week contract can eliminate what pride of maintenance the tenant may have had under monthly or annual lease apartment living. In the case of Puerto Ricans who have just arrived on the mainland there is without doubt a problem of adjustment to urban living which contributes negatively to structure and area appearance, and to interior maintenance. Unaccustomed to our municipal system of garbage and trash collection they may use the air well of their building as a convenient container. Large numbers of children in their vigorous play soon extinguish what vegetation may exist in front of the building and will give the finish of interior walls and floors very rough treatment. The parallel of some of these conditions with those created by the Southern Negro is clear. Again, however, the question must be raised as to whether this pattern of action is in any sense racial or nationalist. The answer certainly appears to be in the negative since economic status, recent cultural background, and discrimination provide nearly all the answers. As the economic position of any one of these groups improves and it becomes possible to avoid the more exploitive landlords maintenance improves. Evidence gathered in studies made in San Francisco, Oakland, Philadelphia, and Kansas City showed that nonwhites maintained their properties at least as well as white owners in comparable areas.[20]

Our discussion now moves into an examination of the most recent findings and opinions of the effect of race on property value. In the definitive studies conducted by Laurenti the general finding was that within the limits of the data the entry of nonwhites into all-white neighborhoods was associated more often with an improvement in or stability of price than with decline.[21] In Laurenti's opinion a finding which was possibly more significant was that no single pattern of nonwhite influence on property prices could be discovered. He reached the conclusion that what happens to prices following nonwhite entry

appears to depend on a great variety of circumstances which may leave prices unaffected or push them upward or downward. Three general situations or variables are likely to influence what happens to prices when Negroes enter a neighborhood.

(1) The "glutted market" represents one not uncommon setting in which there is an ample supply of housing vacancies on the general market. When Negroes begin to enter a particular neighborhood the white residents may panic in what is assumed to be the "natural" way. They offer their homes for sale at bargain basement prices in part to accelerate their flight, in part because of the large supply of vacancies on the general market. If nonwhites do not move in immediately in large numbers the prices of these particular homes will be pushed even lower. It must also be noted that in this situation the large supply of vacancies in the community makes it possible for the whites to escape. Such an excess in the *general* market may also be used by the white families to effect a more gradual escape not prompted by panic.

(2) The other extreme is represented by the housing market in very short supply. Markets of this kind were common in this country during World War II and for about five years thereafter. They can occur in specific localities at most any time and, in fact, have been a more frequent phenomenon than the glutted market for the past 15 years. In a tight market white families who are selling may be able to obtain very high prices from the Negroes who are more restricted than usual in their range of choice by the extreme shortage of vacancies. Prices will not weaken but advance in this situation for the additional reason that if the whites move they will have a very restricted choice of housing because of the shortage. Since they will have to pay a high price for another house they must receive the maximum for the one which they are selling.

(3) Between the glutted and the tight market a market situation prevails which may well be the average one. However, the average has many faces. One of the conditions of the average market is that in which a rapid exodus of white families is offset by an equally rapid in-movement of Negroes. A complete

turnover of this sort may take place in only a year or two. While prices may drift either way during this period of adjustment it is unlikely that they will deviate far from their original level. Another instance of the average or intermediate market is that in which the entry of Negro families is not followed by other Negroes. This may occur for a number of reasons. One explanation might lie in the price demanded and the social standing of the Negro family making the initial purchase. If there is no panic among the white residents prices will not change. Documentation for this type of reaction was obtained in studies of "infiltrated" areas in San Francisco.[22]

In his studies of the San Francisco Bay Area and Philadelphia, Laurenti examined price data on 5,417 test and 4,495 control properties over the time period from 1943 to 1955. His principal conclusions on price behavior were as follows:[23]

1. In 41 per cent of the comparisons, test prices stayed within 5 per cent of control prices over the observation period. This is taken as indicating no significant difference in price behavior.

2. In 44 per cent of the comparisons, test prices ended relatively higher than control prices, by margins ranging from over 5 to 26 per cent.

3. In the remaining 15 per cent of the comparisons, test prices ended the observation period relatively lower than control prices, by margins ranging from 5 to 9 per cent.

4. Neither the price class of the test neighborhood nor its percentage of nonwhite occupancy showed any regular relationship to observed price movements. All ranges of price and nonwhite occupancy displayed both superior and inferior test price behavior, as compared with control prices.

Laurenti calculated from these results that the odds are about four to one that house prices in a neighborhood entered by nonwhites will keep up with or exceed prices in a comparable all white area.

A study made in Kansas City by another investigator, Thomas Gillette, of 200 test and control prices between 1949 and 1953 showed results similar to those found by Laurenti.[24] How-

ever, Gillette arrived at a more restricted conclusion which maintained that:

If the invading group had been on a significantly lower socio-economic plane, the level of prices might not have been elevated. This thesis does not contend that Negro invasion will inevitably result in a price increment, but does take the position that when the invading group is of a higher socio-economic composition than that of the group being invaded, the resulting trend in real estate values will be a positive upward trend, at least during the stages preceding succession.

The best recent study made of race and property values in Chicago was compiled by E. F. Schietinger for the period 1940-1951.[25] He made a study of 880 separate properties in seven areas of Chicago's South Side. These were areas which had medium to very heavy entry of Negroes. Although Schietinger did not employ control areas or cases he came up with results very much like those of Laurenti and Gillette. The essence of his investigation follows:

1. The threat of Negro occupancy appears to have exerted a deteriorating effect upon property values only in areas of low multiple occupancy.

2. The typical effect of penetration by Negroes was improvement of the price level in the area affected, especially in areas of high multiple occupancy.

3. The level of prices in an area of high multiple occupancy recently saturated by Negro residents compared favorably with the level maintained in other areas.

4. An area of low multiple occupancy long saturated by Negro residents evidenced a definite lag in the level of prices.

In general Schietinger concluded that prices did not fall with an intensification in Negro occupancy.

These then are the collections of evidence based on scientific investigation into the issue of race and property value. One cannot assume that the massing of evidence will defeat prejudice or the "evidence" that is provided by "self-fulfilling prophecies." However, in these times of painful adjustment to many kinds of urban change it is helpful to know the facts concerning the

economics of racial integration. Knowledge of such facts is vital to understanding and control of the future development of our cities in not only an economic and structural but, more importantly, a social and moral sense. In any period of flux such as the one through which we are passing in our urban culture the moral fabric is sorely tried. However, our trials in adjusting to racial assimilation go much deeper in their implications than many other conflicts of morals. It is imperative therefore that the meaning and logic of our actions in this connection are understood. Aside from questions of value, what are the prospects that white and Negro can live together peaceably and happily as they should in the same neighborhoods, in the same apartment building? This is, clearly, a question that stems from the value discussion but is above and beyond it in a social sense. The concluding section of this chapter briefly examines the issue of neighborhood integration and interracial housing from the standpoint of its present workability and future potential.

Prospects for Interracial Housing

As might be expected there are many common assumptions and prejudices regarding interracial housing and its practicality. For example, many believe that neither Negroes nor whites want it. As a consequence, so it is claimed, it would be very difficult to find applicants for such housing as proposed by a builder or investment company. Field investigation has uncovered little support for this belief. Apparently the basic question is not whether whites want interracial housing but, rather, how much in the way of inducement they need to accept it. If the inducement in the form of price, styling, quality, and location is strong, purchases will be made by whites.[26] The problem usually is to convince the Negroes of the community that the development is open to them otherwise they will not even appear to inspect the houses or apartments offered. Another combination of assumptions is that the principal white applicants for interracial housing will come from rather specialized groups such as the membership lists of organizations for racial equality, or from ethnic white minorities such as persons of Jewish extraction.

In the main there has been no evidence found to support these beliefs. New York is the exception where interracial cooperatives are occupied by Jews in proportions running from 75 to 95 per cent.[27] Another argument opposing integration maintains that only in areas where the proportion of nonwhites is small will whites be willing to live on an interracial basis. This argument too is unable to stand before careful investigation. Some developers were found by investigators who had difficulty finding occupants in areas where Negro density was low as well as where it was high. Yet the reverse was found to be true in other instances where, for example, open projects received a high proportion of white applications in communites in which the Negro population approached 20 per cent of the total. Heavy white patronage was found as well in cities with Negro populations under 3 per cent. Apparently, therefore, no inverse correlation exists between white patronage of these projects and size of local Negro population.

Psychological interviewing of white occupants of interracial projects, although limited in scope, has revealed findings important to the future of integration in general. It appears, as suspected, that only a minority of whites in open-occupancy projects come from among the militant racial liberals. A majority are mainly interested in housing value rather than the color of their neighbors. One could interpret this reaction to mean that good housing value counterbalances mild antipathy toward non-whites. Another block of evidence shows that the proportion of Negroes in a project influences many of the white purchasers. In other words some whites tolerate a few Negro families in a development but become alarmed at large numbers. This finding suggests, in turn, that the process of adaptation is involved. As white families became familiar with the few Negroes in their building or neighborhood their level of tolerance rises so that they would no longer be alarmed at small additions to the colored population. One final and perhaps obvious fact uncovered by interviewing and discussion with builders is that the degree to which prospective white occupants are exposed to pressure from family and friends is important in

determining the final mix of the project. The Hillview rental development in California is a good example of this situation.

There is a common misconception concerning the proportion of non-white residents in open-occupancy projects. According to research conducted by the Griers there are 50 known private interracial housing developments in this country. In 31 of these Negroes made up half or less of the residents. Most people, in contradiction to this fact, are under the impression that Negroes dominate such projects.[28] Even among the experts in the field of interracial housing there are preconceptions which prove to be a bit shaky. There is, for example, the "scare point" hypothesis. This hypothesis maintains that there is a critical point in the ratio of whites to non-whites which must not be exceeded if whites are not to be discouraged from buying or renting. A 20 to 25 per cent proportion of non-whites seems to be the ceiling generally agreed upon. The Griers have concluded from their thorough investigation of the private sector of interracial housing that this hypothesis *may* apply in older neighborhoods but is not generally observable in new developments that admit non-whites from the beginning. They point to one extreme case in which an all Negro rental project in California shifted to two thirds white during the space of a few months in 1955 and until 1958, when they discontinued their study, had maintained that ratio. Single family residence cooperatives in Illinois and Connecticut carried a one-third non-white ratio for several years. An apartment cooperative in Philadelphia which began in 1952 with 40 per cent non-white occupancy has that same ratio today.

Doubts concerning "ownership neighborhood" compatibility of Negroes and whites persist despite such data as have just been presented relative to rental projects. For that reason it is appropriate to examine briefly the degree of compatibility that has been attained thus far in the struggle for racial adjustment in the single family residence neighborhood. A case study of the Russel Woods section of Detroit has revealed an interesting pattern of racial adjustment. Here is a prototype of the sound middle-class neighborhood where single family residences predominate. This is the sort of neighborhood duplicated in cities

all over the United States which is likely to face the problem of integration with increasing intensity in the years just ahead. In the Russel Woods case the physical environment was essentially healthy in terms of many well built brick homes, spacious yards, and heavily tree-lined traffic-free streets. The neighborhood at the time of the study, was past the peak of its life cycle as measured by the individual family cycles of its inhabitants but physical condition was still good and prestige of the area high. Entry of Negroes was slow and unobtrusive. Families arrived one or two at a time. First came a successful lawyer. He was followed by other professional people. In short, the original occupational and social cast of the neighborhood was being duplicated by the Negro migrants. Russel Woods had a neighborhood association which tried to block Negro entry but after a few unsuccessful attempts gave way to sentiments of the younger white families who favored free entry of the Negroes. At no time did massive resistance to the Negro develop nor was panic flight by the established residents at any time in evidence. Very gradual out-movement of white families did take place over a five year period but a substantial core remained held by the locational advantages of the area, their attachment to the physical character of the neighborhood, and the lack of any active dislike for their new neighbors.[29] Values in general have not only held but advanced, supported both by lack of panic and the higher than average purchasing power of the Negro professionals.

A quite different pattern of assimilation is taking place in the case of New York's Puerto Ricans. Here it has been discovered that the new arrivals tend to "spot" broadly over the face of the lower end of Manhattan including the west side. But as they climb the socio-economic ladder they concentrate more and more. It is likely that the next phase to this cycle will be one of dispersion again in the second generation. The concentrated groups include those who have been in New York ten years or more. In nearly all cases they do not have a color problem and have mastered the English language. Interviewing revealed that this group had become "Americanized" quite rapidly in that standard middle-class attitudes and values were

much in evidence. These Puerto Ricans placed high values on a good neighborhood and a well maintained building. They sought the advantages of neighborhood conveniences such as shopping, parks, and schools. They placed a premium on "quietness." Nearly half of the group, despite their self-imposed segregation, had non-Puerto Rican friends. A very interesting and significant finding for the future was that most Puerto Ricans do not *feel* that they have received discriminatory treatment even though this is contrary to fact. For many reasons, therefore, the process of adjustment to the Puerto Rican in major urban centers will be much less of a problem than that presented by our attitudes toward the much more numerous Negro.

* * *

All evidence seems to show minority groups working hard and patiently at a problem of adjustment in which the majority must cooperate with the same thoroughness plus a greater measure of tolerance and understanding than they have shown up until now.

NOTES

1. Oscar Handlin, *The Newcomers* (Cambridge, Massachusetts: Harvard University Press, 1959), pp. 51-52.
2. *Ibid.*, p. 42.
3. A Summary in Facts and Figures, A. J. Jaffe, ed., *Puerto Rican Population of New York City* (New York, 1957), p. 16.
4. Handlin, *op. cit.*, pp. 7 and 8.
5. *Ibid.*, pp. 36-37.
6. *Ibid.*, p. 37.
7. Henry E. Hoagland, *Real Estate Principles* (New York: McGraw-Hill Book Company Inc., 1940), p. 148.
8. Charles Abrams, *Forbidden Neighbors* (New York: Harper and Brothers, 1955), pp. 263-64.
9. *Ibid.*, p. 157.
10. *Ibid.*, p. 225.
11. Robert C. Weaver, *The Negro Ghetto* (New York: Harcourt, Brace and Company, 1948), p. 260.
12. Public housing projects were centrally situated in part by the need to locate tenants as close to their work as possible. There was also the idea of using existing school and shopping facilities

which might be lacking at the periphery. Equivalent elimination of slum units required under the law was also automatically accomplished by the razing of central area neighborhoods.

13. Abrams, *op. cit.*, p. 313.
14. *Ibid.*, p. 286.
15. Anthony Downs, "An Economic Analysis of Property Values and Race (Laurenti)," *Land Economics*, XXXVI, No. 2, (May, 1960), 187.
16. Luigi Laurenti, *Property Values and Race* (Berkeley: University of California Press, 1960), p. 25.
17. Robert K. Merton, "The Self-fulfilling Prophecy," *The Antioch Review,* XIII, No. 2 (Summer, 1946), 208. Italics in original.
18. Abrams, *op. cit.*, p. 291.
19. Nathan Glazer and Davis McEntire (eds.), *Studies in Housing and Minority Groups,* (Berkeley: University of California Press, 1960), pp. 172-73.
20. Laurenti, *op. cit.*, p. 56.
21. *Ibid.*, p. 47.
22. *Ibid.*, p. 49.
23. *Ibid.*, pp. 51 and 52.
24. Thomas L. Gillette, "Santa Fe: A Study of the Effects of Negro Invasion on Property Values" (unpublished Master's thesis, Department of Sociology, University of Kansas City, 1954).
25. Laurenti, *op. cit.*, p. 196.
26. Eunice and George Grier, *Privately Developed Interracial Housing* (Berkeley: University of California Press, 1960), p. 158.
27. *Ibid.*, p. 161.
28. *Ibid.*, pp. 169-70.
29. Glazer and McEntire, *op. cit.*, pp. 202-06.

9

Zoning: Debatable Traditions and Policies

Introduction:

While zoning is properly thought of by most people as a highly technical procedure for controlling land use, it is nonetheless one of the most familiar of urban planning tools. Zoning cases are common copy in most city newspapers. They are good copy because they frequently involve human interest situations as well as matters of property value. There is, for example, the common case of the indigent widow who, in order to earn some sort of living divides her large but failing home into apartments. Located in a restricted single family residence district she has violated the law. The case becomes one of public concern, if the city is small enough, and sides are taken. Opinions both technical and emotional are hotly exchanged. In the process the public as well as their officials become better informed on zoning objectives in general. Then there are run of the mill cases which involve the set back of a structure from the front property line. Through error or intent a builder may have placed his house foundation too close to the street. Questions are raised as to whether he should be required to move the foundation, be fined, or excused. While this type of situation will not have broad human appeal, it will, nonetheless, be followed with interest by prospective home owners as well as by builders. Direct involvement of a large number of persons in zoning controversy is also likely to result from the request of a funeral home firm for a zoning change of a prospective lot from residential to com-

mercial. When, as is frequently the case, the zoning change is at the edge of a middle class residential district, the alarm is great and the objections strenuous. This kind of situation will receive more than the average newspaper coverage as the consequence of many letters to the editor and reporting of accompanying court proceedings.

With this background of public education both by direct experience and vicariously through the columns of the newspaper, preconceptions and fixed ideas develop in the public mind concerning the way in which zoning should and does work in particular situations. Many "experts" appear on the scene and the neighborhood groups that have formed ranks against a funeral home will call upon their body of procedural and "technical" knowledge to resist other undesirable uses or situations such as filling stations, drive-in theaters, apartments, and "unsightly architecture." This concern of the citizen for city development and his involvement in public issues is heartening to a supporter of democratic processes. However, it is disheartening in that many of the conceptions, which grow into a sort of immutable law and superstition in the public mind, influence the thinking of both those public servants who draft the laws and those who enforce them. While this is perhaps a healthy political situation in any nation with a representative form of government it does at the same time tend to stifle the careful criticism and thought which is so necessary to progress in the complex developmental control of modern cities. One of the objectives of this chapter is to examine some of these popular conceptions by means of the pro and con device employed in this book. By critical examination the strengths and weaknesses of these beliefs will be more clearly revealed.

Need For An Understanding of Zoning

Why is zoning worth a separate chapter? There are, essentially, two justifications. One is that zoning is the only form of organized land use control known to many communities. In

these communities zoning and city planning are thought of as being synonymous. This is an unfortunate confusion, because zoning is only *one* of the legal tools of the city planning process. This attitude is, nonetheless, an indication of the importance and status of zoning in such cities. The other justification of zoning as a topic of importance is that it has universal influence and application within a community. In any city which has a zoning ordinance everyone is more or less influenced by the content of the ordinance, interpretations made of its provisions, and the changes made in it from year to year. Naturally the weight of this impact will vary. It is heavy in the older areas of transition and usually lighter in the newly established residence neighborhoods, shopping centers, and industrial districts. It is well recognized, however, that the newer more stable areas are in many respects much more sensitive to change or proposals of change when they do occur than are the older districts. It might be argued that building codes are as pervasive in their effects as zoning since as local ordinances they apply to all private property. However, changes made in building codes usually have their most direct effect on new construction. Zoning changes on the other hand tend to influence existing property more extensively both within the geographical limits of the change and immediately outside it. Subdivision regulations, which represent a third standard form of land use control in many communities, are even less pervasive in terms of the effects of change than are building codes. Alterations in these regulations apply exclusively to land areas that are to be cut into lots. Retroactive effects can be noted only in those rather rare instances where a subdivision is to be redesigned. Subdivision regulations, moreover, apply principally to neighborhood design and do not extend to the full scale of uses as does zoning. As already noted, special permission to change the rule of application of a zoning ordinance to a particular property has wide significance in that it serves as a precedent throughout the community for comparable changes in similar zoning districts.

General Explanation of Zoning

Before considering some of the more popular controversial issues of the zoning field, the objectives and mechanics of zoning should be clearly understood.

Purposes of Zoning

In very simple terms the main purpose of zoning is to channel city growth in the proper directions and proper uses in order that a safe, efficient, and stimulating community will result. In this country, zoning attempts to forecast the demands and needs of the private market while combining with these demands provision for the public and semi-public uses that are necessary to the functioning of predominantly private use districts. In its channeling of private development effort, zoning also tries to insure a proper spatial relationship of uses within the city. This geographical balance is vital to the objectives of urban efficiency and convenience. In the early years of its life in this country, zoning was thought of as a means of controlling nuisances such as livery stables, junk yards, and slaughter houses. Gradually the concept of zoning expanded into its present framework but in the process retained some very substantial colorings of the old philosophy. Another outgrown but still very prevelant conception of zoning is that its intent is to protect the status quo and the present level of values. Ideally, zoning should protect the status quo only as long as it expresses that pattern of uses which is best for the community and does not thwart needed change.

System of Operation

In very general terms the arrangement of a community's zoning is familiar to most people. The average urban community of any size will be divided geographically into four use districts, namely: residential, commercial, manufacturing, and agricultural. District boundary lines will usually be represented by major streets or natural features like lakes and rivers. There will, as a rule, be several residential and commercial districts, the number varying with community size, needs, and topography.

Manufacturing may also have more than one zoned district. Agricultural districts are largely peripheral and account for the predominantly open land within the city limits in which no specific urban use has yet made a bid for dominance. Individual districts are divided into subdistricts. For example, residential zones or districts may be subdivided into zones "A", "B", and "C". In the main these represent areas of increasing intensity of use. Residential "A" will be the zone of single family residences; Residential "B" will contain the two- to four-family structures; Residential "C" will be set aside for rooming houses and multi-family apartment buildings. Manufacturing districts may also be subdistricted with "A" set aside for light industry and "B" for heavy industry. Zoning districts are set up in a hierarchy in which residential uses are considered the highest, commercial next in line followed by manufacturing. This same hierarchical arrangement prevails within the subdistricting. Residential "A" is considered higher than or superior to Residential "B"; "B" is higher than "C" and so on. Thus there is a range of uses which places Residential "A" at the top of the use-desirability scale and manufacturing "B" at the bottom. There seem to be no definite opinions as to the proper position in the order of uses for the agricultural classification. This indecision may arise from conflicting facts. In some respects, such as minimum lot area per dwelling unit, the agricultural classification is more exclusive than Residential "A", but in terms of uses allowed it falls far below Manufacturing "B" since barnyards and sanitary fill operations are permitted. The total effect of the hierarchical system is that in the scale of desirability any use has almost unlimited freedom of movement downward but can never move upward. As an example of this principle Commercial "A" uses possess complete freedom of movement *downward* into Commercial "B" or either of the two manufacturing subdistricts. It cannot, however, move *upward* into even the lowest category of residential classification such as Residential "D". The validity of the exclusion principle will be considered at a later point in the chapter.

"Non-conforming" Uses

Most cities in this country that have a zoning ordinance placed it in their set of ordinances long after the city was established and fairly well developed as a community. Thus, when districts and subdistricts were designated under the ordinance they were usually not "pure" from the hierarchy point of view. In other words, a Residential "A" district in the old part of town might be spotted with commercial and even manufacturing uses. These were permitted to stay in the residential district on a provisional basis and are called "legal nonconforming uses." The provisional basis alluded to may be very strict in some communites but is lenient in most.

Legal Aspects

Zoning ordinances adopted by municipalities are made possible by state enabling legislation. State legislation defines the broad areas of control that the city may use as a point of departure in drafting ordinances. In the actual ordinance drafting procedure a community may consult a model ordinance provided by the state or the ordinance of some other city in or out of the state. Enforcement is in local hands and usually is delegated to the Building Department or, if none exists, to the department or person issuing building permits. The idea here is that no permit will be issued until the appropriateness of the use has been checked by the issuing clerk. There is, of course, the chance that uses not involving permits may slip by under this procedure. When a citizen wishes to have his property rezoned, or seeks some suspension of the rules bearing on his property, he applies to the local planner, plan commission, or city engineer, who will pass on the request with a recommendation to the zoning committee or directly to the city council. If the ultimate decision goes against the property owner he may look to an appeal board in most jurisdictions and to the courts in any circumstance.

Zoning Changes

There are at least three methods by which zoning ordinances may be changed. These methods are the common variance, area rezoning, and spot zoning.

(1) *Variances:*

Variances are the most common type of request for change that come before local administrative officials. A specific example will serve to clarify the meaning of the term. Mr. Jones, a family man of very moderate means, has after much scrimping and saving managed to acquire sufficient cash to buy a building lot on a dead-end street in a good quality subdivision. He has obtained the lot at a bargain price because of three peculiar situations: (1) The lot is narrower than adjoining lots and has a frontage of 50 feet compared to the average 60 foot frontages of lots in the rest of the block; (2) Although lot depth at 120 feet is the same as that of other lots in the block, there is a tall, 10-foot outcropping of rock in the rear of the lot which extends to within 45 feet of the front property line; (3) On that side of the lot which is in line with the dead-end of the street, the same rock outcropping cuts into the width of the lot by some 20 feet. The local zoning ordinance requires 10-foot side yards and a 30-foot setback from the front property line in its Residential "A" zones. In order to build a house of normal proportions and one suitable to his needs, Jones, if he is going to comply with the letter of the ordinance will have to cut away substantial portions of rock. Drilling away of the rock will be long and expensive. Proximity of other residences makes blasting almost impossible. In view of these conditions, Jones considers his case to be in the hardship category and applies for a variance in the application of the ordinance to his lot which would reduce the setback from 30 to 15 feet and his one open side yard from 10 to 5 feet. While this is obviously an extreme case, it does serve to dramatize somewhat the control issues involved.

What arguments can be made for granting a variance? The strongest case that can be made for hardship is the topography

and natural formation of the lot, which, while it does not prevent construction according to the law, does make it more expensive than usual. This becomes a fact of more importance when Jones' own meager financial resources are taken into consideration. While compliance with the ordinance could be accomplished without materially disturbing the rock outcroppings, this would involve the hiring of an architect to adapt a special structure to the site, an expense that could not be borne by Jones. Moreover, the actual construction of such a unique building would be more costly per square foot than the average residence. It is also highly probable that the styling of such a building would by necessity be so unusual as to clash with the design of homes already existing in the neighborhood. Two other streets in the subdivision also dead-end against the same bluff and have rock formations on the abutting lots comparable to those on Jones' lot. However, on two of the four lots involved on these other streets construction had taken place in accordance with the specifications of the ordinance while the remaining lots on the other two streets as well as the one across from Jones' were still vacant. In those cases where construction had taken place the infringement of rock into the lot was not as prominent as with Jones' lot. Moreover, the owners of these lots were in more comfortable financial circumstances than Jones. This was the substance of the case as presented by Jones and his attorney.

At the hearing in connection with this petition for a variance several neighbors appeared to protest. Two members of the zoning committee also raised points opposing the change. The arguments against Jones' request followed these familiar lines:

(1) Granting of the variance asked on Jones' lot would result in a very unsightly set back. Jones' residence would project 15 feet beyond the building line established for all other residences on the street. A side yard of 5 feet would reduce the amount of light and air circulation for the adjoining residence and would at the same time invade the privacy of the property to some extent.

(2) As noted, two other properties with similar topography had not asked for variances. The fact that the owners of these properties had higher incomes than Jones was not pertinent to the argument. If income is to be measured in judging enforcement of the rules then the hope for any uniformity of development would be completely undermined.

(3) Granting of the variance would, moreover, stand as a precedent for the lot across the street from Jones as well as for the comparable vacant lots on the other two streets. It would be almost impossible to deny similar petitions from these owners if leniency were shown in the current case. While not openly stated at the hearing it was implied that the committee must of necessity be very careful in the granting of any variance, first because of its desire to preserve the integrity and strength of control of the ordinance; second to discourage the multiplication of petitions that would result from a lowering of the bars.

(4) Residents in the immediate vicinity of Jones' lot were naturally concerned over the effect of the variance on their property values. They felt very definitely that a lowering of value would be inevitable.

(5) Though not openly expressed there was some evidence of resistance to Jones' request because of his occupational standing. Whereas most of the neighboring properties were owned by white collar professionals such as young lawyers, public school teachers, and automobile salesmen, Jones was an employee of the garbage division of the city's street department.

(6) Several housewives from the neighborhood pleaded that the city should buy the two street-end lots as a small neighborhood park. Children of the area had gotten great pleasure from playing among the rock formations which in the opinion of the housewives lent a very pleasing aesthetic touch to the street-end.

(7) In drawing the hearing to a close the chairman reminded the public in attendance and his own committee members that there are three tests to be applied to variance cases. All three must pertain and have a favorable interpretation for the petitioner before a variance can be granted. As an example of

this test, North Carolina's state enabling act states that there must be findings as follows:[1]

(a) "There are practical difficulties or unnecessary hardships in the way of carrying out the strict letter of the ordinance."

(b) "The variance is in harmony with the general purpose and intent of the ordinance and preserves its spirit."

(c) "In the granting of the variance the public safety and welfare have been assured and substantial justice has been done."

The legal meaning of "hardship," which is so prominent in the case cited, deserves brief comment. General rules which have been developed for these cases require that the applicant for a variance must show:[2]

(1) "That if he complies with the provisions of the ordinance, he can secure no reasonable return from, or make no reasonable use of, his property.

(2) That the hardship results from the application of the ordinance to his property.

(3) That the hardship of which he complains is suffered by his property directly, and not merely by others.

(4) That the hardship is not the result of his own actions.

(5) That the hardship is peculiar to the property of the applicant."

The case under discussion has no *one* solution. The verdict given Jones will depend on local precedent and procedures, the enabling act of the state in which the property is located, and the sensitivity of the zoning committee itself to local political pressures. In spite of these qualifications the guideposts are present by which the reader may reach his own conclusions.

(2) *Rezoning*:

The second method by which a change may be brought about in a zoning ordinance is through rezoning. When a request

is made of the local zoning committee that a wide area (including many individual lots) be shifted or rezoned from one form of use districting to another, the breadth and intensity of public interest is much greater than in the case of a single property variance. Not only are there more individual properties involved in the change but the effect of the change on bordering properties and whole neighborhoods is likely to be extensive. A typical and highly controversial type of rezoning is that which involves a shift from single family to multi-family zoning in suburban areas. The situation is typically one in which a subdivider decides that he can make a higher profit by selling a block or string of single family lots to apartment investors than by leaving them in their lower density status. Or the case may be that of an investment company which wants to buy a series of such lots as soon as the zoning has been changed to an apartment classification.

As an example of this situation, assume that the Fairview Development Company has within one of its better class single family subdivisions an entire block of 25 vacant lots which has a major arterial on one of its long frontages and secondary streets with fronting residences along the other three sides. Across the arterial from the block in question are residences of an even higher quality but older subdivision which had been developed by another company. Lots in the subject block are completely vacant because the Fairview Company had been considering the zoning request ever since starting its sale of residence building lots in the adjoining blocks.

When a rezoning proposal was made to the zoning board of the suburban village in which the subdivision was located opposition immediately developed from the individual residents of Fairview's own development and from the neighborhood association of the older quality subdivision across the arterial. In the acrimonious public hearing which was held the rather inexperienced zoning committee was badgered by both sides, as is the custom, but in the end the committee was left with two sets of arguments from which it had to extract a decision which must give justice not only to the opposing parties but also to the community at large, which was growing at a rapid pace and for that

reason required firm, intelligent guidance. The development company received first hearing. Those who spoke in favor of the zoning change made the following arguments:

(1) A strong demand for apartment living has developed in the suburbs within the last decade. Ordinary subdividing activity is not caring for this demand. Hence, it is highly advisable to have experienced land developers meet this need on a basis which integrates apartments and homes rather than by speculative investors who erect acres of isolated high rise housing.

(2) Property values of a neighborhood are strengthened by the proper mixture of residence uses. Apartments and homes in the same neighborhood make possible the convenient evolution of a family cycle from newly married status to widowhood without long distance moves and the breaking of personal associations that have been established over the years. Variety in kinds and ages of people that results from this kind of mixing makes the neighborhood stimulating and interesting. It has, in fact, a broadening effect on all participants, which is highly desirable in any democratic community.

(3) Mixture of uses as it is envisioned in the present proposal does not in any sense involve indiscriminate spotting of apartments throughout the neighborhood. This proposal is for a peripheral strip that might possibly be viewed as a buffer between the arterial and the single family part of the Fairview development. It would, moreover, present a pleasing contrast of building profiles as between residences and the two-story row garden apartment structures that are contemplated. Density in accord with the local apartment ordinance will be low and landscape plantings will set off the buildings and greatly enhance general neighborhood appearance.

(4) Apartment buildings with their high land and building values will give the village a very sizeable block of tax revenues. Because of the physical concentration of these

buildings the service costs will be somewhat lower than for an equivalent number of single family residences because of the shorter distances between dwellings. If the suburban village fathers are trying to build up the "profit taxpayers" it is probably much more desirable for them to do it by means of apartments than by industry.

(5) For any given 100 units of housing there will be more childless households or households with a small number of children among apartment dwellers than among traditional residence property owners. Therefore, the village need have no fears that a great influx of children will push up school costs to alarming heights.

(6) The association representing the older subdivision across the arterial from the subject area does not seem to take into consideration two important facts, (a) the arterial, in most jurisdictions, is considered an adequate buffer between uses if they are thought to conflict; (b) Fairview had not developed its subdivision at the time the older area was opened up. Therefore, the association should feel lucky that manufacturing or commercial uses have not moved in rather than the attractive apartment structures which are planned.

(7) Increased concentration of families in the apartment development will mean a greater volume of trade for the local shops and shopping center, which the village board is interested in fostering.

By way of rebuttal to the arguments made by the development company and its supporters the individual property owners of the Fairview plat and representatives of the adjoining neighborhood association made a very strong case against rezoning. In summary the points which they raised were:

(1) It is generally a bad idea to mix tenants with owner occupants of the upper middle class. This is because tenants have different tastes and standards. They are always on the move and consequently do not have much respect for their property and its maintenance. For the

same reason they don't have much interest in the problems of the neighborhood and community. Their living habits are strikingly different from those of the average home owner. Since they have no children, as a rule, they stay out late at night and maintain a standard of conduct which is damaging to high neighborhood family standards.

(2) Traffic and parking problems will be created. Although there may be off-street parking space provided for each of the tenants, most people, and tenants in particular, have a habit of leaving their cars parked conveniently at the curb. This situation will be further complicated by numerous visitor's cars which will also take curb space. Total traffic movement on the street will be multiplied many times over not only by the conditions previously outlined but also by intensification of delivery vehicle movement. These conditions will not only be annoying and unsightly but dangerous for the children of the established residents.

(3) The suburban peace and quiet which once characterized the neighborhood will be disturbed not only by the comings and goings of the excessive number of residents in the subject block but also by the multiplication of TV sets at open windows and the endless argument and ill-mannered debates that seem to be a tenant pastime. Shortage of yard space will probably mean that tenants will congregate during periods of hot or fine weather on the relatively narrow lawns of the building set backs, thus adding to the visual clutter and the unseemly din.

(4) General wearing away of lawn areas and neglect of shrubbery will tend over a very short period of time to give this block a dingy, rundown appearance despite its newness. Carelessness of tenants will produce a litter of paper and trash in driveways and street. The overall effect will be to reduce the visual amenity factors of this part of the neighborhood to a marked degree.

(5) Encouragement of apartment developments in the suburbs will stimulate that urban atmosphere that all the original residents have sought to escape. The idea here is, of course, that of all residence structures the apartment building most strongly typifies the big city. More apartment developments will also encourage the other accessories of big city living such as curbs and gutters, sidewalks, more numerous and brighter street lights and more durable street paving. Thus will pass the long valued and hard sought semi-rusticity that the true suburbanite has fought to obtain. As the paraphernalia of urbanization multiplies general taxes will, of course, rise. These will be supplemented by special assessments on individual property owners for such items as curb, gutter, and sidewalks. If allowed to get out of hand apartment development will bring about drastic changes in some of the very expensive municipal services like sewer and water, and fire protection.

(6) The sum of the conditions described is certain to depress the value of single family residence properties immediately adjacent to the subject block. Over the years this depression of values will spread to the balance of the neighborhood. Falling values in this area will mean a weakening of the tax base. If this effect is broad enough tax rates will have to be raised sharply to maintain essential services. Such a condition could thwart village development and redirect growth to some neighboring suburb.

(7) Since this is the first rezoning request to be presented to the village it is important not to establish an injurious precedent. As the only apartment development in a highly desirable suburb it would undoubtedly be filled immediately and accumulate a lengthy waiting list. The presence of what appeared to be a rich market in combination with the still attractively low tax rate of the

village would attract many apartment project development investors and in turn build up pressure both for rezoning as well as original zoning for apartments.

Again, the decision of the zoning committee, for our purposes, will remain unknown. The decision may be "right" or "wrong" according to the standards applied. The present objective is to weigh the reasoning on both sides and then to come to a decision which is weighted in terms of community welfare.

(3) *Spot Zoning:*

The discussion next turns to a method of zoning change which in the eyes of all courts is considered illegal. It persists and thrives, nonetheless, because it is often not recognized as spot zoning, because it is not considered injurious in a specific instance, or because those opposing it lack the energy or wealth to push a case through the courts. Somewhat briefer treatment will be given this topic than the preceding two partly because its frequency, fortunately, is less and because some of the applicable arguments pro and con have already been made.

The case in this instance is that of a grocer who wishes to establish his business in a residential district. Specifically, he wants to convert an old home which stands at the edge of an aging but still sound residential district near the center of a small city. The residence in question faces a busy arterial. On the opposite side of the street the zoning is commercial but there are no groceries for a distance of four or five blocks in either direction. On that side of the street where the old home is located the zoning is in the top residential category, although two blocks away small apartments have been allowed after much resistance by neighbors. The grocer has petitioned the zoning committee for a change from Residential "A" to Commercial "A." No neighborhood association exists in this instance, but a large group of residence property owners from the area appeared at the hearing. Apartment dwellers and home owners across the arterial became interested in the case and appeared to support the grocer's petition. In the course of the hearings the principal points which were developed are as follows:

(1) There is an acute need in the general area for a grocery. Apartment residents living over commercial businesses across the arterial find it very inconvenient to shop at a distance of 5 blocks. Moreover, the store that is available at that location has a poor selection of merchandise. A number of young families who have moved into the homes behind the commercial strip also desire at least a small convenience grocery, although they buy the major portion of their provisions at a downtown supermarket.

(2) It is of significance that the arterial frontage across from the subject property has been in commercial use for many years. There has been no apparent depreciation of the contiguous older residential district as a result of this proximity. In fact the old residences have held their value in large part because of the convenience of these commercial outlets. Addition of a grocery would only tend to reinforce this convenience pattern.

(3) It is inappropriate for large old residences with deep set backs and sweeping lawns to face on what should be by rights only a business arterial. The traffic and noise itself is damaging to this type of residence use and the arterial frontage is much too valuable to stay the way it is.

(4) The grocer claims that in converting the residence to grocery use he will make no substantial exterior alterations except on the front of the structure, hence there will be no conspicious clash between the styling of the store and adjoining residences.

(5) A member of the local chamber of commerce stressed the fact that the city was growing rapidly and that additional space was badly needed for small service businesses, which must somehow be fitted into the older as well as the newer sections of the community. He also pointed out that the store would return far more in tax revenues, real and personal, than the residence did at present.

The neighborhood opposition was much more numerous and vocal, but in a polite and insistent way that befitted its social position in the community. They pointed out that:

(1) The grocer's petition if allowed would result in spot zoning. This meant to them that an isolated, conflicting use was to be introduced on a single lot within an essentially homogeneous high class residential district. A lawyer in the group speaking as a citizen pointed out that although the community lacked a plan it did have a zoning ordinance and that according to state statutes the zoning committee would have to show, if it allowed the grocer's request, that this jump of business across the street was part of a comprehensive plan for providing more commercial zoning near the center of the community. If it was unable to prove this, and also to justify it, such zoning would be illegal. He claimed that it would do the zoning committee harm as a public body to avoid technical spot zoning by making a use variance within the residential classification. Such variances approach malpractice from an administrative point of view, the lawyer claimed.

(2) Once retail business is allowed to cross the arterial it would spread rapidly in both directions and thus undermine the appearance and desirability of one of the community's prestige areas. In all probability this would stimulate the flight of the present residents and encourage the development of a rooming house district.

(3) With the introduction of a grocery into the neighborhood the volume of foot and automobile traffic would increase to a marked degree on that side of the arterial. Parking, already a problem because of the commercial strip opposite, would become even more difficult.

(4) A number of adverse side effects could be anticipated with grocery uses. There would, for example, be the disturbance of lights and noise from early in the morning until late at night. Truck deliveries of merchandise would be particularly bothersome as well as a com-

plicating factor for traffic. From a health point of view, refuse at the rear of the store would not only be offensive but would also tend to attract rats. Accumulations of papers and boxes would be a fire hazard in this neighborhood of frame residences and outbuildings.

(5) The residences of this area, because of their relatively high value, tend to yield tax "profits" to the community. Since most residence districts show a loss it would be unwise to undermine the economic stability of one of the few conspicuous exceptions to this rule in the community.

These arguments rounded out the case which was then left with the zoning committee for decision. Again, if justice to the parties involved and the preservation and promotion of community welfare are the guides, a decision should not be difficult to reach.

Nonconforming Uses

One of the most bothersome areas of control in the process of community development is that involving land uses which at the time zoning is first placed in operation do not conform with specified district use. This applies, of course, only to *legal* exceptions to the hierarchy of uses. A single family residence within a commercial retail zone is not a legal nonconforming use under most ordinances. But a retail store in a Residence "A" district will usually be considered nonconforming. The controversy here involves the problem of the removal of such uses or their rights of growth and development. Briefly stated, in more specific terms, the basic questions are: Should a legal nonconforming retail use in a high class residence district be allowed to stay on indefinitely? Should such a use be allowed to expand, repair, and improve its quarters without limit? Before considering these questions, let use review quickly the different classes of nonconformance. There are five major groupings.[3]

(1) Nonconforming *lots*. Such lots are too small, too narrow, or too shallow to meet the requirements of the district in which they are located.

(2) Nonconforming *structures.* These include buildings which are too high, extend into required yards on one or all sides, or cover too much of the lot.

(3) Nonconforming *uses of land.* These include such things as junk yards, trailer sales lots, sand and gravel pits, signs and billboards. Any of these uses of *land* may involve some structures.

(4) Nonconforming *uses of structures.* Use of a residence structure for some strictly commercial purpose provides a good example of this variety of nonconformance.

(5) Nonconforming *uses of structures and land in combination.*

The limitations placed on nonconforming properties by the typical zoning ordinance are usually four in number.

(1) A nonconforming property may be repaired by its owner only up to 50 per cent of the assessed valuation at the time the zoning ordinance affecting the property was put in force. Dollars for repair are cumulated for the property up to the maximum stated.

(2) In general, no nonconforming use may be altered or extended except in the process of making it conform.

(3) If the property is damaged by fire or flood beyond 50 per cent of its current replacement value, it may not be restored to its former nonconforming use.

(4) Any prolonged period of discontinuance of the nonconforming use of a structure, such as a year or for short intermittent periods within a two or three year period, will mean that the use may not continue. A variation on this type of restraint prevents a nonconforming use from resuming its operations within a structure if for a period a conforming use has been present there.

Some ordinances have tried an amortization system whereby the nonconforming use must cease when, after a stated period of years, its structural investments has been written off.

In order to see the implications both of the nonconforming use and of the legislation which customarily restricts it let us ex-

amine a specific case. This case involves the nonconforming use of land and structure in combination. More controversy arises around this particular combination than any other. It must be recognized at the outset that some types of nonconformity like lot nonconformity are almost impossible to change except by urban renewal, while others are considered benign or inoffensive to surrounding land uses. In our present example let us say that a paper box factory has been in operation at the edge of a small city for thirty years. As time passed the area surrounding it was sought for home construction. Eventually the factory was completely encircled by homes of modest value, some occupied by employees of the paper box company. By this time the city had attained a size which made a zoning ordinance highly necessary. When the zoning districts were finally laid out and approved by the city council, the site of the box factory was completely included in a Residential "A" district. At the time the ordinance was passed it contained no specific restrictions on nonconforming uses. Within two years of its passage however, the box company applied for a building permit for expansion of the plant on vacant land which still remained on the original parcel. Some complications in connection with the building plans held up immediate issuance of the permit. News of the company's plans spread rapidly causing great consternation among home owners of the neighborhood surrounding the factory. An amendment to the zoning ordinance was hastily drafted which contained the standard restraints on nonconforming users. A public hearing was also quickly arranged in order to expedite the processing of the amendment. In the debates which took place at the hearing many arguments were raised by both sides which pointed up the philosophy and economics which are involved in this general problem field. At the hearing legal representatives of the box company received substantial support from other manufacturing and commercial interests in the city who would be affected by the amendment if it were passed. In making a case against the amendment the business interests referred to made the following arguments:

(1) The property on which the paper box factory stands was purchased and a business was established many years

before the passage of the zoning ordinance. It is unjust, therefore, to prevent the expansion of the enterprise because of subsequent developments for which the company is in no way responsible. At the time of its establishment the business had planned gradual expansion. Two additions to the plant had already been approved by the city.

(2) The box company and a number of other enterprises affected by the amendment are highly important to the economy of the community. In fact, many home owners who are supporting the amendment are able to pay for their homes only because of the jobs they hold in these business establishments. By making expansion impossible at the present site the community is hurting itself. This is true because as a consequence of the planned expansion the box company is anticipating hiring more employees.

(3) Those who suggest that the company move to another site which is more spacious and in an industrial district are forgetting some important obstacles to such a change. For example, the cost to the company of the shutdown that would be necessary at the time of moving would be great. It would, moreover, be very difficult to get a suitable price for the old building. As a nonconforming building which in no circumstances could be made conforming it would have few interested purchasers. Since the building is rather specialized in design it would have to be used either for some other manufacturing process or for storage. Neither of these uses would have eager takers under the amendment. Because the community's one industrial district is on the opposite side of town, many employees living near the plant might consider the inconvenience of the new location sufficient reason for quitting.

(4) Restrictions on repair of the factory building are particularly contradictory. If carried out to the letter of the law the physical security of the building would be

impaired. Even if interpreted liberally so that critical repairs would be exempt from the law, inability to perform such routine maintenance as painting or patching of siding would result in a shabby looking structure that would not only be harmful to the prestige of the firm but also to the general appearance of the neighborhood. In any neighborhood where several nonconforming structures and uses are present, legislated omission of maintenance would be a very tangible blight producing factor. Very shortly the company will have to replace some of its fabricating machinery in order to stay in the highly competitive paper box market. Inasmuch as this machinery is much heavier than that used at the present time, floor and wall supports must be replaced. The amendment in its present form will prevent the installation of such supports and thus prevent introduction of the new machinery. This prohibition would, therefore, place the company in a dangerously weak competitive position. The insurance company which carries the fire coverage on the building has informed the box company that starting next year the premiums due will rise by 50 per cent unless an extensive system of fire doors and fire-proofing of critical areas within the building is carried out. A literal interpretation of the amendment makes compliance with this request difficult if not impossible.

(5) Although an amortization clause is not included in the amendment, the box company wished to go on record against it as a possible compromise device that would be proposed by the city. Since the factory building is of brick construction, it might be given a long write-off period, say 60 years. But, in all likelihood the consumed life of the building, 30 years, would be deducted from this total giving a very short period in which to recapture investment and provide for a new location. Amortization clauses, moreover, place too much emphasis on the real estate of a business and provide no

way of adjusting for the good-will element of assets, plus special operating economies, that are associated with a particular location.

After a short recess the hearing directed its attention to the professional and lay arguments *for* the amendment.

(1) In an attempt to allay the fears of the box company relative to restriction of maintenance the city building inspector testified, by way of providing information, that the cumulation of repair charges would begin not with the passage of the original zoning ordinance (1950) but with the approval of the amendment (1960). This would make possible a fairly extensive program of repairs considering the high property assessment which the factory carried.

(2) Residential development to the west of the plant site is still rather thin. It is feared that if the factory is allowed not only to continue at its present location but also to expand, more residence building will be discouraged. This possibility is particularly strong inasmuch as there are other growing Residence "A" sectors in which there are no nonconforming uses. While the city will gain assessments on new homes in either location lack of building near the factory may well result in large-scale stagnation and tax delinquency in the three subdivisions that were begun there before the zoning ordinance was passed.

(3) Presence of the factory has already had a negative effect on single family residence values it is alleged. Several requests for zoning change to rooming house and apartment use have their roots in this situation. It was vehemently maintained by one citizen that the presence of a major nonconformer such as the factory would breed a veritable rash of variance requests which would be hard to deny if the policy of the municipality toward the nonconformer were a lenient one. As the permitted variances multiplied the effectiveness of zoning in the district would be cut to ribbons. With the dam of re-

sistance once broken the flood could eventually inundate the whole zoning ordinance. On the other hand if the city were strict with variance requests and at the same time lenient with the major nonconformer, extensive violations and evasions of the ordinance could be anticipated.

(4) Presence of the box factory in the midst of a single family residence district has already involved the city in uneconomic public service practices. As the factory has grown it has been necessary to increase the size of sewer and water mains serving the area to diameters half again the size necessary for the residence area alone. Streets used by the company's trucks and trucks of servicing firms have been widened and given heavy duty surfacing plus much more frequent maintainance than would otherwise have been required.

Similarly, the fire station protecting the area must employ more specialized equipment because of the peculiar nature of the factory building and its contents. During certain periods of the day police traffic patrol is increased in the area due largely to truck and employee traffic. While these diseconomies have been pretty well absorbed into the municipal budget and then forgotten over the years, a halt must be called somewhere otherwise with plant growth and extension such costs will continue to cumulate. Eventual elimination of the plant from the neighborhood and its movement to a more industrialized district could actually eliminate some of these costs although some such as the oversized sewer and water mains are almost irrevocably committed.

* * *

It is important that we think positively concerning nonconforming uses. They are not monsters of neighborhood destruction but highly valuable and important community uses which are improperly located. There is no denying that the box factory is a significant part of the local economy in both an employment and a property tax sense. We must, as its management claims, consider its welfare and future efficiency. While it

is obvious that the plant was the first urban use in its area, it is also a fact that due to lack of community foresight and planning advice the area developed into a residential district around the plant parcel. Since it is patently impossible to remove the residences from the plant, is it not logical to follow an opposite course of action? There is every reason to believe that closely contiguous residence development is impairing plant efficiency. The present amendment is a case in point. If the box factory were in the proper district it would have far fewer of the locational worries that now afflict it and consume the valuable energies of its executive staff. Even without the amendment, plant expansion will become more expensive and more difficult over the years as residences and even apartment buildings may have to be acquired and then demolished. The same argument applies to employee parking space, which is critical in that present zoning does not permit parking lots. This situation forces the employee to fight for curb parking space with the residents of the area who consider it theirs. Curb parking, in turn, forces long walks on the employee who will tend to add this item to a list of discontents that may prompt him to look elsewhere for work. Space for loading docks and the maneuvering of large trucks on the factory grounds, is another aspect of the plant's almost constant struggle for space that is fought tooth and nail by the surrounding residents. Then too the movement of trucks through the area can become inefficiently slow and risky as a result of the presence of many young children and unpredictable neighborhood drivers. Smoke ordinances are certain to be applied with more rigorousness in these districts.

Here we have, therefore, what is no more than a nontechnical outline of some of the issues that revolve about the question of zoning nonconformance. This must not be thought of as a problem which afflicts only the older sections of large cities. Zoning is not an exact science. This fact plus the highly dynamic nature of the American city makes it necessary to change zoning district classifications, boundaries, and the very conception of zoning itself. As long as this is the way things are we will continue to have nonconforming conditions of one

type or another. How we approach and solve the inefficiencies that result depends on the quality both of our logic and of our goals for the city.

Domination of Land Use Hierarchy by Single Family Residence Classification

One of the guiding principles of zoning in this country has been that single family residence use shall be given top consideration where questions of exclusiveness, protection, and first access to "desirable" land is at issue. Only within very recent years has this precept been brought into question. It cannot yet be considered a truly controversial issue. On the other hand the broad implications of its application have created situations which, on a narrower front, are very close to the lines of conflict constantly forming in an age of progress and change against revered and previously unquestioned guides to conduct.

To justify the present exalted position of the single family classification seems almost patronizing sacrilege. For the average person it is enough to say that his home is his "castle." Here is found the privacy and possibly the serenity that he badly needs in a busy, worrisome world. This is the place where he can express his threatened individuality in a greater variety of ways than anywhere else. In America, at least, home is the domain of the child and its neighborhood his preserve. Since we place child welfare and development so high in our scale of values it is reasonable that those institutions which contribute to this welfare shall also be cherished. From another point of view the "vine covered cottage" is the abode of the average man or the "little fellow." In any nation which pretends to protect and preserve democratic principles this "home" must be guarded against all threats of infringement. In a more realistic political sense every city council is aware of the fact that the homeowners represent the bulk of the votes. Therefore, if the council bends a sensitive and sympathetic ear to the plaints and requests of these home owners such concern is but rational. In an economic sense homes represent the greatest share of assessed valuation in most cities. They are second only to the job opportunity as a magnetic force which

tends to hold a family within a particular community. In many communities in which employment becomes insecure or local wage levels decline, families will hopefully stay on because of the meaning that their homes have attained. Finally, the visual amenities of many communities are largely concentrated in their areas of single family residences. Most cities point with pride to the park-like qualities and imposing beauty of their areas of "fine homes." Here, then, we have the tradition, very real and persistent, which has placed the single family home where it is today at the peak of the rating structure of urban land uses.

What possible objection can there be to the highly estimable human, economic, political, and aesthetic values that the home has come to represent? Those who object to what might be considered a deification of the home above other uses do not deny the association of the values mentioned. They argue along two lines, one, that other uses have very significant values that are important to us even along aesthetic lines. Their second general point is that in depressing the status of other uses and ignoring their importance the single family residence category can bring injury on itself. In more specific terms is it not true that while a man's home, the shelter of his wife, children, and dreams, may well be the most important end objective of his life, none of this including the wife and children would be possible without proper economic support? Does this not therefore suggest the importance of those commercial, non-profit, and manufacturing uses that are associated with employment? If the answer persists that these are necessary, usually unsightly evils, we are merely admitting that we are not using to the full our design know-how for land as well as buildings. This know-how has enabled us to produce shopping centers, industrial buildings, and industrial parks which have qualities of beauty inside and out that far exceed what we have thus far been able to conceive for the sacrosanct ranch home in the "spaghetti mold" subdivision of today. There is also a growing realization that the progressive design which we have begun to apply to commercial and manufacturing installations is directly associated with greater efficiency, productivity, and profits. Other evidence of this economic progressivism is found

in the vastly improved physical working conditions that contribute not only to individual worker productivity but also to a reduction in employee turnover and absenteeism. From a broader point of view once again it must be stressed that as our culture becomes more and more urbanized the internal parts of the city become more and more interdependent. Abuse or neglect of any one of the land use classifications or functioning organs that compose this city of today and tomorrow is likely to have more immediate and drastic effects on the other urban organs than it did at any time in the past. In summary, this argument says that the urban community is composed of a set of cooperative parts, no one of which is paramount, that must work in unison to produce a type of urban life which is not only stimulating but inspiring. In the vocabulary of the land economist it may be said that what we should be trying to do is to assure *each* land use the location which will allow it to produce its goods or services at maximum efficiency. This standard should apply whether the use in question involves a factory or a residence. Each use within a city holds a critical yet changing locational relation to many other uses. There is no fixed mold into which they may be placed. This is a truth of which every man is aware when he considers the space relations of his home to his work, to shopping facilities, to his children's school, to church, and to recreational areas. Both the location and quality of these relations are what really give value to his home, much more than the wood, bricks, and mortar of which it is composed, more perhaps than the character and quality of his neighborhood street. For too many years we have developed our cities under a home-oriented planning and land policy that is dangerously inconsistent in some respects. It has prompted us to employ the "useless", tag ends of land for our public park systems. Subdividers are in the habit of donating park areas in order to gain concessions or simply because an acre of cattails or a hill is useless to them for building lots. Many large city parks are the consequence of philanthropy or small citizen group action rather than the considered policy of private enterprise and local government. And yet we are only beginning to appreciate the critical psychological and physiological need for

properly spaced and related open, breathing spaces of green in our dense urban fabric.

Manufacturing has always been in the lowest caste. Our policy toward it has been, essentially, one of isolation. We still argue, despite sweeping technological change that the river bottom land no one else wants is "proper" for manufacturing. Or it may be that railroad track frontage that is zoned for industrial use has no relation to the specific transport needs of the plants that are involved. This particular approach also usually forgets the effect of such "stripping" on the community which it crosses. Even the gradual development of our interest in the industrial park does not seem to have brought home to us the need for its integration with the community and the abandonment of the unreal and inefficient isolation philosophy of yesterday. Commericial uses are, of course, also cast in a mold largely inappropriate to their needs. The standard prescription for much arterial and most intersection frontage is to give it to commercial use, saving some of the arterial frontage, of course, for apartments. We now have much evidence at hand to make us wonder whether this is the correct approach. Haven't we acted again in large part because this is a location that is spurned by the single family residence? Haven't we tended to rationalize the results of this hierarchy of selection? Certainly strip commercial development even in the day of the horse car was not an efficient pattern. Intersection development in commercial use had some space convenience advantage to it in the day of the pedestrian but even then was a nightmare of congestion at certain times of the day. While the shopping center has jogged our imaginations in the direction of new and better ways of handling commercial development we still are not quite sure how we should manage the new arrival. Nor are we sure whether it warrants a higher station in the family of uses. Our uncertainty seems demonstrated by the fact that we continue to zone our arterial frontage and intersection frontage in the old manner. The inconsistent way in which we treat all uses of less than single family status is compounded by a fact that has been mentioned often in this book, namely, tax profitability of these uses. Manufacturing, com-

mercial, and even large scale apartment developments yield a margin of property tax revenues over service costs which help support the deficit single family areas. This should be additional cause for the democratization of our approach toward the community of uses.

It is encouraging to note that we are making a beginning in the direction of more balanced treatment of the use categories. Reference was made earlier to the fact that some cities are excluding residence use, single family in particular, from manufacturing zones. While this may look, at first, like an accenting of the isolation approach, it is actually a restraint on the unlimited ability of the top residence uses to locate in an uninhibited manner to the detriment of other use areas into which they move. One of the moot points with which we still have to contend is the question of whether or not to exclude residence uses from commercial districts as well.[4]

The case for excluding residence use from commercial districts can be advanced with the aid of the same general arguments as those employed for exclusion of residence use from industrial districts. It is largely a question of efficiency. When individual residences or apartment structures are interspersed with commercial buildings the commercial district is strung out farther than would otherwise be the case. Increase in total distance of the shopping strip increases the inconvenience of shopping and thus may impair either the general patronage of the area or the patronage of shops at the extremities. This same interspersing effect, by breaking the continuity of the commercial frontage, tends to inhibit window shopping and, hence, very important impulse buying. A result of this sort is based on observation of shoppers who are apparently mesmerized by a continuous strip of window displays but will be brought back to "reality" by any substantial break which might be no more than an entrance to upper floor apartments. With a mixture of residence uses the commercial area is also vulnerable to rather extended street parking by the residents. This situation will, of course, reduce both the total supply and convenience of parking for patrons of the commercial establishments. Closely

associated with the parking problem will, quite naturally, be the difficulties encountered by shoppers in contending with the additional traffic created by residence users in the area. Moreover, expansion of commercial areas is thwarted by a mixture of residence structures. Conversion of single family residences to commercial use on the first floor is made unattractive by the deep setback of the structure from the commercial frontage and by the problem of adapting the structure itself to commercial or office purposes. One particular headache is the fact that the first floor of an old type residence is usually not at grade or sidewalk level. Any retail use and even some service uses like barber and beauty shops are put at a competitive disadvantage when their customers are required to climb even a short flight of steps. If a commercial firm wishes either to enter a commercial area and build on a residential site or to expand its premises to an adjoining site it is faced with a heavy investment not only in land but also in a building which must be razed. Hence the consolidation and expansion of certain uses in a growing commercial district can be sharply restricted both to their disadvantage as well as to that of the community. In many instances residence uses have been badly blighted by their mixture with stores and offices. Their unattractiveness will, of course, prove harmful to the prestige of such an area which trades so heavily upon appearance and particularly on newness and the up-to-date.[5] It is obvious that residence use as well as commercial is injured by indiscriminate mixture. Apartments and rooms over shops are usually considered marginal housing in quality terms. While their presence is clearly a means of increasing the investment return on the building there is a strong possibility in many cases that the revenue potential of the top rent payer on the commercial first floor is impaired by the presence of these apartments. It will be noted that in most instances a building erected by the principal commercial occupant or a building designed by an investor for a particular tenant will frequently be a single story or two stories with office space on the second floor.

So much then for the privilege of uninhibited movement by single family uses into all other use categories. All the variations

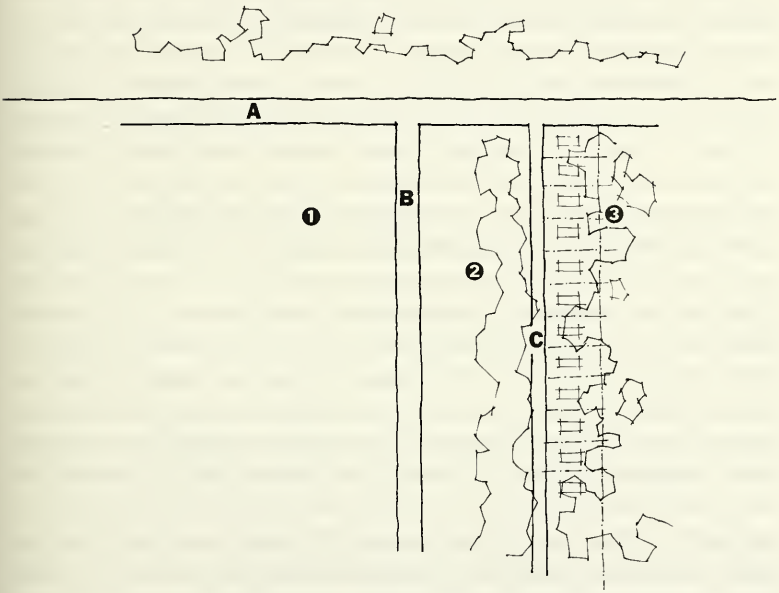
of this particular problem have not, of course, been touched upon. But at least a sample has been given of the dilemma and its implications for healthful city development. The discussion next turns to a problem which is very definitely in the controversy stage and, at the same time, has its roots deeply planted in the idea of preeminence of the single family residence among use categories.

The Neighborhood Pressure Group

Pressure groups are a familiar phenomenon in the operation of our governmental system. It is, however, the group of neighbors which appears before a city council or county committee which is most frequently featured in the local press, particularly when that appearance coincides with a public hearing on some issue that affects an entire neighborhood. Zoning questions have, undoubtedly, accounted for the greatest share of these group appearances. It is therefore with this particular interest of such groups that this discussion will be concerned. Since the activities of these groups do bring results, the issues may be briefly stated in the form of such questions as: (a) Are the objectives of these informal citizen groups generally good for the neighborhoods from which they come? (b) What is the total effect over time on city structure and development that results from the individual efforts of many of these groups? (c) Is the influence of pressures from this direction a good thing for city planning and the municipal legislative process? It will not be possible to give entirely satisfactory replies to these questions in the pages that follow. This is largely because we don't yet know what the answers are. But it is clear to those who have thought about these questions that at least a point of view must be developed and quickly. It will be the objective of the ensuing pages to present as many arguments as space allows in an attempt to give the reader tools with which he can fashion a more informed opinion. As has been suggested there are throughout the country a myriad of zoning cases which are contested each year by informal groups of citizens from affected neighborhoods. It would be difficult to say without careful research which cases

are the representative ones. At the risk of exaggeration let us examine the facts of an actual case which, though unique in some respects, contains the essential principles of the broad policy questions we are trying to explore.

A tract developer in a small midwestern city had approached the local planning commission with a preliminary plat which was very nearly a square mile in both area and shape. The upper



A — East-West Arterial
B — North-South Arterial
C — Residential Street

1 — Shopping Center Area
2 — Controversial Block
3 — Established Residence Area

SKETCH 1
Relation of Development Area to Established Residence Area

right quadrant of this area was bounded on its eastern limit by a quiet residential street whose new, well kept, middle-class homes looked west across the street upon a portion of the developer's then vacant tract which was, for the most part, in agricultural use. The northern boundary of the developer's land and of the adjoining neighborhood was one of the city's major east-west arterials. Two hundred feet west of the neighborhood street the city had recently cut through a north-south highway which terminated at the east-west arterial just mentioned. Thus a very long narrow block was created between the established neighborhood and the main portion of the developer's square mile of agricultural land. The developer proposed that the northern half of the long block be opened to three non-residential users, a two-story state office building, an insurance company office building of one story, and on the east-west arterial frontage a filling station. On the west side of the north-south highway he planned to place a regional shopping center which would have frontage on the two major arterials mentioned. (See Sketch #1 .) It was also the developer's plan to shield the office buildings and their parking areas from the adjoining established residence area by means of high, dense shrubbery plantings. He felt that this shield, plus the low modern construction of the office buildings, would take care of any visual objections that the established residents might have. Occupants of the homes facing the block in question were, however, quite sure that this plan would permanently impair the suburban residential atmosphere which they thought they had found. The plan would moreover greatly reduce the value of their homes. So great was the vocal and organizational strength of this group that several hearings were held. In the process of these hearings the neighborhood group came up with a counter proposal. They suggested that the gas station site be left as planned by the developer but that the office building area be replaced with two types of residence use. On the street frontage facing the established residences the zoning would be for single family residences. Backing on this zone and facing the shopping center, there would be a residence classification zone for four family apartment buildings. The upshot of the heated

discussion was that the city's planning commission gave its approval to the developer's plan while the city council, with the final say, backed the alternate proposal of the neighborhood group. In examining the outcome of this case we will look at the specific facts and attempt to see what general principles they reveal.

On the side of the neighborhood group there are several arguments which can be made in support of its specific proposals and of its general effectiveness as an advisor to the planning commission and the city council.

(1) The planning profession in this country is generally agreed that the only way to plan is with full citizen participation in the planning process. Expression of ideas concerning what the city should be, how it should operate, and the nature of its faults must come from those who live in it and experience it in its entirety from day to day. It is the city that the children of the citizenry will inherit and experience, therefore it must be made suitable to their needs as well. Planning conceived from abstract principles is both undemocratic and unrealistic. It is imposed from above and lacks the individuality, understanding, and human touch that need to make it function for a particular community. In the present instance the developer is from out of town. His interest is in a quick return of a maximum profit. He cannot be expected to be sympathetic to the needs and interests of the neighborhoods that surround his operations. The local planning commission, on the other hand, is composed of reputable citizens and public officials. But these men cannot be expected to know the intimate desires and problems of every neighborhood in the community. Only the resident representatives of the neighborhood really know their area and know how they want their environment to develop.

(2) There are in the citizen group three or four older residents who over the years have lived in other parts

of the city. They have witnessed other zoning battles and know what a wrong decision can do to a neighborhood. In this particular case their combined years of contact with the city at large is far greater than that of any member of the planning commission and of most members of the city council.

(3) It is a sad but true fact that, like any consumers, families within a neighborhood frequently do not have organized group representation and so must depend on emergency makeshift organization of forces such as the present body of 40 husbands, wives, and occasional grown children. If their presentation of fact and opinion is emotionally or poorly stated it may still be sincere and accurate.

(4) There are those who will say that it is the alderman's responsibility to defend the neighborhood if it desires his assistance. This is certainly true, but the efforts of the alderman alone are not enough. His is only one voice when many are needed. Moreover, in appearing before the council alone there would be the suspicion among his fellow council members that in making a case against the developer's zoning he had a political axe to grind.

(5) It is moreover true that the members of the neighborhood group have elected, directly or indirectly, the persons appealed to such as the mayor and the appointive members of the planning commission. Is it not the duty of these public servants to listen sympathetically to pleas of citizen groups and grant their wishes as completely as possible?

(6) In specific terms the citizens group counter proposal on zoning has strong precedent in planning practice. Where possible, buffer strips should be established between top grade residential districts and commercial areas. Such a buffer is clearly needed between the homes of the established residents and the shopping center. Under the terms of the citizen proposal the

existing residences will face similar residences across the street. These residences will, in turn, have a comparable front outlook. In their rear the new residences will back on the next lower grade of residential use, the four-family apartments. The apartments will not abut directly against the commercial use but will also have an adequate buffer in the boulevard between them and the shopping center.

(7) The zoning method proposed also follows standard practice in establishing a strip of apartment houses along a principal arterial (the north-south boulevard artery). This zoning is found desirable by those families who desire maximum convenience in terms of quick access to commercial outlets and lines of rapid movement such as arterials to and from the city's center. Not having children, as a rule, families in apartments have no need or desire for yard space and gardens. They put a low value on privacy and quiet and hence feel at ease on a busy street.

(8) If office buildings were introduced into the long block under discussion large areas would have to be developed for employee parking. The resulting noise and fumes would be particularly offensive. Inasmuch as the parking area would open on the north-south arterial this would snarl traffic badly at least twice a day. As a consequence much of the arterial traffic would tend to divert around this point and along the residential street. This situation would be bothersome as well as a threat to the safety of the many children living on the street.

(9) The planning commission, in approving the developer's proposal for a state office building, had neglected to consider the factor of property taxes. State property would, of course, not pay a tax while the homes and apartments would contribute a substantial sum to the city treasury each year.

Before turning to some of the specific points raised by the chairman of the planning commission in defense of his group's

decision before the city council, let us briefly review some of the general arguments which can be made *against* the pressure group system as a means of reaching sound decisions on zoning matters.

(1) More often than not the interests of a neighborhood pressure group are narrowly conceived. In the case which is under discussion only the home owners on the residential street facing the subject block were directly affected by the developer's zoning proposal. However, they were able to obtain petition signatures from nearly all other property owners in the neighborhood in support of their stand. Signatures obtained in such circumstances are of doubtful significance. When people are not directly affected by the circumstances described in a petition they will usually sign just to be cooperative. This would be particularly true in a small neighborhood. Therefore out of a petition of one thousand signatures, eighty represent the directly affected parties.

(2) Because of the restricted area of interest represented by the pressure group it cannot fairly be said that the objectives of the group are actually aimed at maximum general neighborhood welfare. And certainly any conception of their influence over the total welfare of the city is completely absent from their minds. It is, on the other hand, the job of the planner, a plan commission, and the city council to think only of how an action will influence the entire community. If they are performing their jobs properly they should have not only an awareness but, in the case of the planning commission, a detailed knowledge of how the different major areas and sub-areas of the community fit together and of what their development trends are and ought to be. Any situation in which they are pressured out of their convictions by any group, citizen oriented or otherwise, represents a serious dereliction of duty on their part.

(3) Where constructive imagination and aggressiveness are applied to the guidance of a city's growth there are sure

to be streets and even large portions of neighborhoods which will be adversely affected. But the net gain for the community and frequently for the affected neighborhood will be many time the loss suffered. Certainly the alternative to progressive development planning is bleak to contemplate. Shall we proceed on the basis of promoting only those proposals to which there are no substantial objections? Or shall we employ more scientific means and render decisions according to the recordings of sound meters installed at public hearings or the scale weight of accumulated petitions? Government employing these latter techniques is easier on the public official and gives him politically valuable popularity, at least in some quarters.

(4) But what about democratic representation and citizen participation in planning? Don't these evaporate if we disregard the pressure group? Apparently citizen participation is misunderstood by some. As it applies to the situation under discussion "participation" is used in a literal sense. The appearance of a neighborhood pressure group should be warmly welcomed by any public body. It shows citizen interest in the community and an absence of apathy, which all too often characterizes public political experience in American life. However, participation does not mean that the opinions of the citizens appearing at a particular time must dictate the decision. The value of the citizen's presence, aside from the fact of participation, is that he provides additional facts and points of view that may have escaped the notice of the public officials. These data can then be combined with the facts already at hand in order to determine how the community interest can best be served. What the citizen group often forgets is that its evidence is but a small portion of the total and is combined in the thought processes of the official with testimony from other citizens in other hearings, and with

what knowledge he has of the needs and desires of those citizens who lack the initiative or confidence to appear before public bodies. As for the question of democratic representation the answer is about the same. We do not place our public officials in office to do exactly what we tell them but to use their intelligence and, statesmanship to bring about results which will attain the greatest good both for ourselves and our fellow citizens.

(5) In public hearings where large numbers of citizens appear, the high emotional tension which develops places a severe strain on the abilities of public bodies in arriving at a rational decision. Since officials are human they are certain to react emotionally. It will therefore take marked ability on their part to weigh facts and emotions in the proper proportions. Wherever the welfare of children is involved the focus of judgement becomes very blurred. This is because of the emphasis, possibly overemphasis, which our culture places on the protection of children. "Home and hearth" have a very nearly equal pulling power on the heartstrings of the listener. Any individual can feed the fires of apprehension by imagining a multitude of injuries to home and children that might emerge from a particular situation which he opposes.

(6) Pressures brought to bear by citizen groups on their aldermen may have unfortunate political consequences. If the group is sufficiently large and influential the alderman may feel that in order to stay in office at election time he must accede to the desires of the group even though they are contrary to his better judgement. Depending on his political strength the alderman in supporting the views of his constituents may rely heavily on log rolling to attain his ends. If this mutual support system is well entrenched in the council it can almost guarantee "delivery" for the citizen group and against

the council's professional advisory body, the planning commission. The plan commission members themselves are not immune to political pressure, particularly the public officials in the body. Citizen members can be independent in their decisions, but if their business connections are very broad throughout the community they also may be highly sensitive to public opinion.

Turning briefly to the specifics of the zoning case under discussion, much criticism can be leveled at the successful counter proposal put forward by the neighborhood group. If, for example, proximity of residential use to commercial use is as bad as the citizen group claims it to be it seems unjust to throw the apartment dwellers "to the wolves" by placing them directly across from the regional shopping center.

Single family residence users whose lots back on the apartment lots will suffer from poor use integration. This will result from the fact that the narrow attenuated shape of the subject block yields lots of only 100 foot depth. Inasmuch as an offstreet parking clause in the zoning ordinance requires the apartment buildings to devote nearly all of their rear yard space to storage of the tenants' cars a rather unattractive backyard view is in prospect for the adjoining single family residence users.

In spite of traditional practice the use of major arterial frontage for apartment development is usually not good planning. This is true because many of the assumptions concerning the needs of apartment tenants are either half true or completely false. As pointed out in an earlier part of this chapter, many tenants have children who could use yard space and are vulnerable to traffic dangers. Tenants also seek spacious and quiet surroundings. To use apartments as buffers, therefore, is the height of both selfishness and ignorance.

On the north-south arterial bordering the shopping center site, traffic will be a serious problem. The introduction of a string of thirty apartment buildings along this artery will compound the problem. Thirty separate entrances and exits with four cars to a driveway should make its mark on the evenness of traffic flow and the level of the accident rate. Curb parking by tenants,

guests, and service vehicles will add to the confusion. No curb parking would have been either necessary or allowed under the office building development plan.

* * *

This concludes the summation of arguments bearing on the neighborhood pressure group. More space than ordinary has been devoted to it not only because of its familiarity but because of the strong likelihood that at some time in his life the reader will be involved in a similar situation, the outcome of which will be of great importance not only to himself and his family but also to his chosen community.

NOTES

1. Philip P. Green, Jr., *Zoning in North Carolina* (Institute of Government, University of North Carolina: Chapel Hill, 1952) pp. 342-43.
2. *Ibid.*, p. 343.
3. Perry L. Norton (ed.), *Bair Facts* (Chandler-Davis: West Trenton, N. J., 1960) pp. 75-76.
4. There may even be some merit in questioning the advisability of "mixing" within a broad use category. For example, should Residential "A" be excluded from Residential "B", Commercial "A" from Commercial "B" and so on? While much of our thinking today is moving in the direction of *more* mixing of residential uses, high-rise and low-rise, indiscriminate mixing is not intended but, rather, an intelligent integration. Exclusion of residences from industrial areas is undoubtedly good for both industry and for the residences. But this does not mean that the two uses must, therefore, be widely separated in space. In fact, rather close contiguity would be advisable under proper planning guidance.
5. It was this very influence which brought many cities to the realization that their manufacturing areas were stunted by the presence of slum properties. The low tone of these mixed districts combined with the factor of high acquisition cost discouraged the entry of new enterprise and the expansion of the old.

10

Elemental Issues of Urban Neighborhood and Area Design

Since World War II there has developed in America an increasing appreciation of and demand for utilitarian objects of good design. Most prominent in the market place have been the products of the industrial designer. His artistry extends from the automobile and power boat to the transistor radio and ordinary containers. From a business point of view design emphasis has been a marketing feature. However, like so many cases of induced demand, the styling of the product has stimulated sales not only for the physical item but also for the high standard of design. It is commonplace in the field of marketing to observe that packaging rather than contents is the thing to stress in promotion programs. While this situation may call into question some aspects of our value system, it does, nonetheless, underline our growing insistence on the aesthetic.

Building Design

Even those of us who may be relatively insensitive to line, color, mass, contrast, and texture in buildings cannot help but be aware of the dramatic changes which have taken place in almost all branches of the field of building design. These changes, which appear in varying degrees in all cities, range from schools and churches through the commercial gamut of office buildings, shopping centers, and filling stations to the latest wonders of manufacturing plant architecture. Housing has lagged somewhat in this advance. This is explained in part by the fact that the modern architectural firm is unable to earn a satisfactory volume or rate of

profit from general house designing. As a consequence high quality housing and landscape design have concentrated in the higher price ranges, usually above $35,000 in the present market. What top-flight architecture we have in the lower price ranges has been made possible by the large prefabrication firms. There is, nonetheless, increasing demand for good house design among the middle and low income groups. This has been stimulated in part by design advances in other structure fields but mainly by the emphasis placed on home architecture, interior decoration, and landscaping by the increasingly popular "house-and-garden-type" magazines in this country. It is only within the past five to eight years that some of this feeling for beauty in structural design has put in an appearance in the field of public regulation. It might be said however, that its arrival in the pages of the regulatory codes is an even stronger indication of its adoption by the public taste. Thus far, regulation does not attempt to control or dictate design *per se* but focuses on control of the combining of architectural forms within a neighborhood.

Urban District Design

Another area which has been influenced by the growing awareness of and taste for design is that of urban sections or districts. While the changes which have been taking place in these districts are closely related to current design innovations in architecture, they have distinct characteristics of their own.

Design in Central Area. The central business district and core area is most prominent among the urban districts influenced by the recent trend in design. While 75 per cent of the design revolution affecting this part of the American city is still on paper, community initiative and finance are at hand to carry out a substantial proportion of these dramatic proposals within the next ten to fifteen years. These plans contain much that is of top quality in the design of public buildings, office, and hotel structures. But the basically important element of the plans is the fact that the site planning frequently attempts an artistic integration of new buildings, green open spaces, traffic circulation ways, and old structures of historical and architectural value to the city. The overall effect

of successful integration is a composite of contrasts, vistas, variety of environment, and change which are stimulating and inspirational in the best urban sense of these terms.

Design in Manufacturing Areas. Industrial parks represent a second type of urban district which reflect a conscious design approach. The designs for these districts do not attempt to soar to the high planes of art attained by the newer central area concepts. They remain essentially utilitarian. But along with a vast improvement in the design of individual factory structures, there has arrived the same conscious attempt at site design that characterizes the central core projects. Open spacing of factory buildings with deep set-backs and ample acreage provides not only utilitarian parking and loading areas but also aesthetically pleasing siting effects. Top management has found that the prestige and employee contentment value of good architecture can be supplemented by imaginative landscape design which goes beyond grass and shrubbery to the design possibilities of flowers, stone flagging, pools, and fountains. When compared to the traditional industrial district of even ten years ago the difference is remarkable.

Design of Shopping Centers. Large-scale, regional shopping centers can also be placed among those urban districts in which new concepts of design are prominent. Consuming in many instances 40 to 50 acres of space they have greater area than many a central business district or industrial park. While the broad deserts of parking area which surround the retail behemoths act as a detraction to good aesthetic effect their cores are often beautiful and exciting in conception. Uninhibited by the physical and dollar dilemmas of the central area and encouraged by the fact of single ownership, architectural design firms have given us an entirely new, efficient, and visually delightful market place environment. Although we are inclined to think of the large shopping center as a rather irregular structural form, it is of course a series of carefully integrated buildings which under the hands of the skillful designer can be molded into a unit of beautiful lines and planes. Familiar to nearly all is the integration of landscaping with the shopping center proper in terms of colored

pavements, low growing trees, artfully executed flower planters and beds, and occasional use of pool and grass strips in the mall areas.

Design In The Residential Subdivision

There is within the metropolitan limits of all American cities one other type of urban district which is greater in a real extent and more intensive in its impact on the community's family life than all of the others so far discussed put together. This is the residential subdivision. Arena of the tract developer and the do-it-yourselfer, there is nothing quite so touching as the attempts of the subdivision to join the parade toward the aesthetic heights. There can be little doubt that it is this district type above all others which is not only most needful but deserving of our best abilities. For these are the districts in which we live, raise our children, and have our dreams. Such districts are usually of very good physical quality. Houses are, on the average, well constructed and magnificently equipped but designed to a standard which must be rated mediocre. Neighborhood design from the standpoint of lot, block, and street pattern and structure placement is excessively dull.

Reasons for Poor Design. It has often been observed that the slums have many times the vitality of the modern suburb. Part of the reason for this lack of vitality lies in the absence of good physical and social design which, of course, is certain to have an effect upon the spirit and actions of the people who inhabit a neighborhood. Other explanations of the parlous state of suburban neighborhood planning are numerous and not particularly profound. For example, the fragmented nature of the subdividing process around most cities is one of the villains in the story. Numerous small tracts ranging from 5 to 25 acres are put under development by realtors, builders, and small investors. These tracts are too small in most instances to give good land design a chance. Even in those cases where a community master plan is present it is extremely difficult to integrate these little snippets of land into any sort of efficient, much less beautiful, neighborhood

pattern. It is, moreover, overly optimistic to expect the average developer to be greatly concerned with the rather painstaking procedures that are so necessary to good design. There is some encouragement in the fact that large scale builder developments are becoming more prominent in the neighborhood design picture. Encouragement arises not from the fact that the land planning which they do is inspirational but from the fact that in working with large land areas and adequate business financing the potential for better design exists. The appearance of the tract developer around the numerous cities of 100,000 or less in this country has been delayed by the thinness of the market. As a consequence land fragmentation will be the rule for an indefinite period into the future; builders and land developers will continue to operate as separate businesses.

Another major difficulty which afflicts the design chances of the suburban neighborhood is the seemingly hopeless rift which prevails between builders on one hand and architects and landscape architects on the other. The small-scale builder feels that he can't afford the fee of an architect for a half dozen houses a year, much less the charges of a landscape architect. Tract developers can afford good design counsel but often argue that their customers do not want the best design or will not pay for it if they do. Landscaping beyond the essentials of a sodded lawn and two house-corner ornamental shrubs is thoughtfully given over to the activity-starved suburban do-it-yourself fraternity. Basic land planning and structure placement in the hands of the tract developer is still efficiency-oriented. His thinking is strongly influenced by assembly-line conceptions of structure erection and the most expeditious means of handling land surfaces. This means that little consideration will be given to interesting irregularities of terrain and natural stands of trees and shrubs. Builders in general argue that appraisers will not recognize the value which is added by good structure and lot design. Somewhat embittered by this belief, builders conclude that circumstances are completely against them and proceed along uninspired, traditional, but acceptable paths.

Design of Metropolitan Areas

One other general urban district type deserves separate identification and description because of its problem proportions. The metropolitan area itself probably should not be described as an "urban district" unless we conceive of it as the ultimate or universal district which makes up the modern city. In America this is the district most neglected when it comes to overall design consideration. It is the district which is at least on a par with (if not prior to) the residential neighborhood in the urgency of its need for design attention. If the metropolitan district is allowed to grow without a guiding conception of design the effectiveness of lesser districts in both operational and visual terms will be undermined. In this country uninhibited growth of metropolitan areas has gone so far, the sprawl has become so excessive, the prospects for future urban population dispersion loom in such tremendous proportions that many authorities have despaired of effective control measures—much less positive programs of design. We now speak of "regional cities," attenuated urban amalgams of smooth external outline and the internal chaos of a Grecian maze.

The reasons for this situation are as familiar as those which afflict the suburban neighborhood. Multitudinous political jurisdictions and an equally multitudinous pattern of urban development controls and philosophies have made the metropolitan portrait the work of many hands and minds, few of which have been integrated, none of which have been artistic in the higher sense. The deeper causes of this situation are discoverable in our national philosophy and customs. We are a people who resist limitations of all types. Any suggestion that city size be controlled in order to improve metropolitan design and urban efficiency would be bitterly resisted. The belief that the larger the size the better and more notable the community is inherent in this resistance. Programs aimed at holding urban fringe lands in permanent agricultural and park use would be assailed as a denial of free investment opportunity as well as a restriction on "natural growth" of the community. Customary insistence on the detached

single family residence buttresses a demand for peripheral lands that can be satisfied only by uninterrupted outward extension of the city—or so it seems. Some argue that burgeoning freeway systems introduce a free-form pattern of concrete and roadside landscaping throughout metropolitan districts which gives them the design which others claim is so tragically lacking. It must be pointed out however, that despite the undeniable engineering-like beauty of these chariotways they are no more than the barriers or, better, the frames to a more significant content. The crucial questions are, what is the picture within the frame? is the frame appropriate to the picture? and so on. Too often the present philosophy of city building by sprawl leaves a peppering of vacant speculator's parcels in its wake which, despite the openness which they provide, desecrate the growing urban tissue by the degree of their neglect.

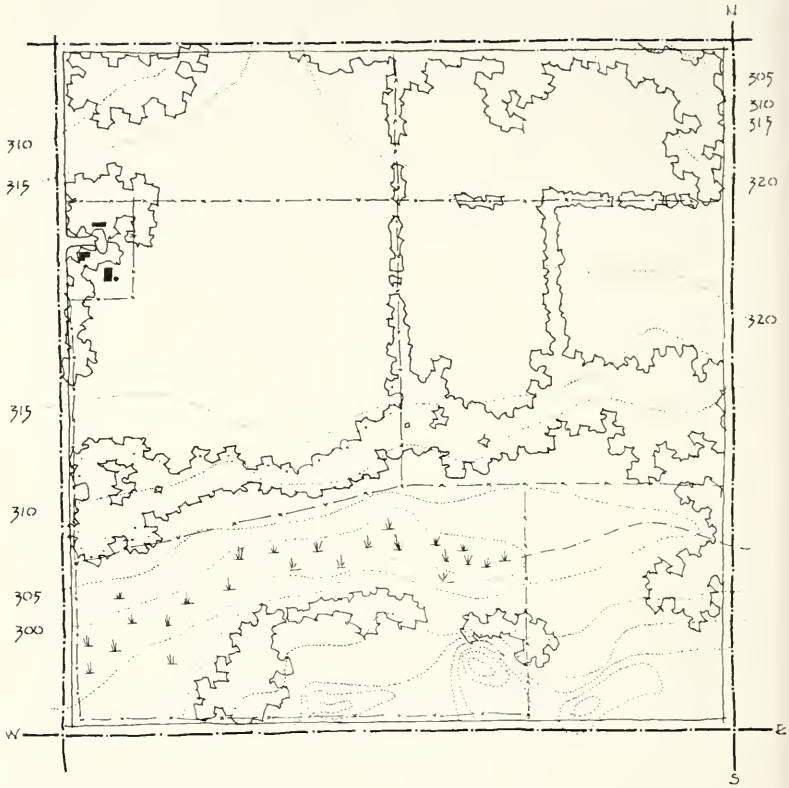
Land Design Alternatives

In the sections which follow, various basic approaches to the design of neighborhoods will be examined. Their strong and weak points will be analyzed. It will be largely up to the reader, however, to make an evaluation which will determine what is best from the standpoint of design aimed not only at aesthetic effect and relative cost but also at general liveability.

Sketch 2 shows a 160 acre farm such as might be purchased by a land developer at the edge of a city. Farm buildings are shown in the northwest part of the area. Natural tree groupings, fencing, tree and hedgerows, a marsh in the southwest corner, and in the northeast a low ridge line make up the principal landscape features. To facilitate comparison of the principal neighborhood design systems this common base map is used for the gridiron plan (Sketch 3), the curvilinear plan (Sketch 4), and two versions of the cluster plan (Sketches 8, and 9).

The Gridiron Pattern

Gridiron street, block, and lot design are familiar. The gridiron plan was molded by the rectangular system of survey,

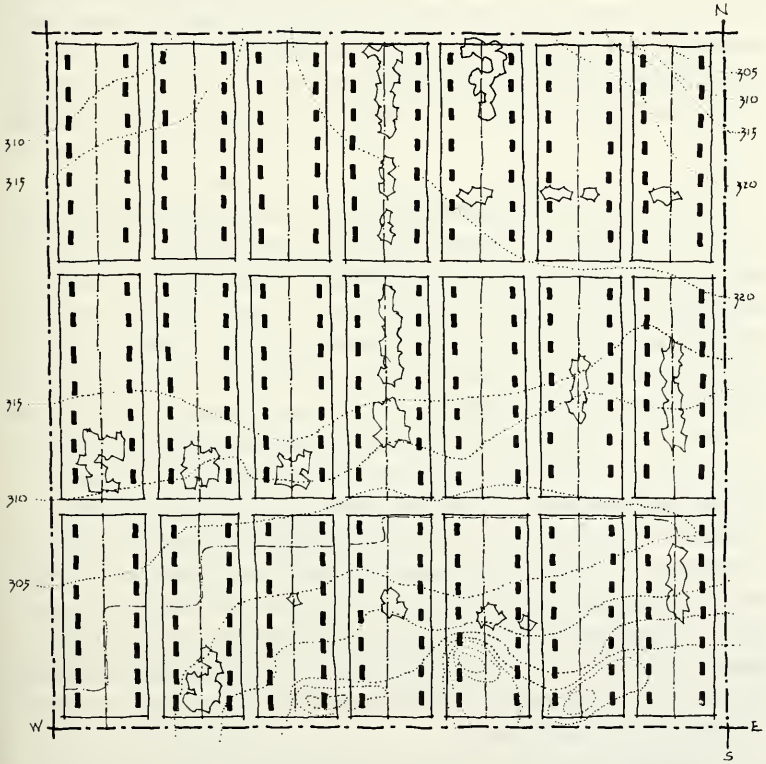


SKETCH 2
FARM LAND SITE PRIOR TO SUBDIVISION

which was applied in a wholesale manner during the formative years of this country, and by 18th century European influences. It flourished in all early city designs with the exception of the nation's capital and a few other cities.

Despite the bitter criticism to which it has been subjected in recent years there are many advantages to the gridiron approach to neighborhood planning. (See Sketch 3). From the standpoint

of engineering design the gridiron has the strength of economy. This argument must have given rise to the somewhat cynical observation that any man with a ruler, pencil, and base map could lay out a subdivision. It is undeniable, nonetheless, that survey costs are often much lower for the gridiron than for some other street and lot design plans. Lot design is as simple, though slightly more detailed, than design of the streets and blocks. Almost identical size and shape of the resulting lots facilitates



SKETCH 3
Rectilinear or Gridiron Development Pattern

structure placement which can be made as uniform as the street and lot plans themselves. The stranger blesses this plan for although he may never have visited the city or neighborhood before, he has no trouble in orienting himself. Simplified street numbering, characteristic of the gridiron, makes his search even easier. Municipal departments place rectilinear planning in high favor because of the ease of maintenance that if affords. Snow removal in particular is managed most efficiently on the straightaway, and some maintain that drainage is also better handled than on a curving system of streets. Traffic divisions of local police departments are loudest in their praise of the grid. Systems of streets arranged on a rectangular pattern, depending on their widths, can carry large volumes of automobile traffic at sustained speeds. If one street becomes clogged, traffic can be diverted to one or more other streets running in the same direction. When major catastrophies occur in the city—fire, flood, or riot—traffic circulation can continue on alternate almost interchangeable streets.

So much for the practical features of the gridiron. What about the aesthetic elements of this approach? Certainly if symmetry is synonymous with good design, this is one of the outstanding virtues of gridiron planning. Streets, blocks, and lots are all arranged in a perfectly balanced pattern. Much emphasis is given in present discussion to the desirability of vista planning in city design. Vistas are city views such as might be obtained by looking down a long, straight, building-enclosed avenue toward some distant focal point like a public building or a fountain in the center of a public square. With nearly all versions of the gridiron plan, vistas of maximum effectiveness are possible. Panoramas are also highly valued by those who rate the design quality of the city. Note the way in which a uniform grid climbs the San Francisco hills to produce truly striking vistas and panoramas. Frank Lloyd Wright used the grid in his idealized Broadacre City and in a special swastika-like version intended for the small neighborhood.

Weaknesses of the Gridiron. Criticisms of the gridiron are nearly as numerous as the advantages listed. It is claimed, for ex-

ample, that the simplicity inherent in the gridiron is so extreme that it breeds dullness. In the residential neighborhood or, for that matter, in any area of the city, contrast and variety are necessary not alone for aesthetic reasons but also for the stimulation and excitement that is a basic part of happy living. Dullness in underlying land planning, breeds or encourages structural monotony. In fairness to the gridiron plan it should be pointed out that interesting structural variation is possible with the lotting plan. It is moreover possible to find very offensive structure monotony in designs other than the gridiron. However, as pointed out earlier, street and lotting plans do appear to have a marked effect over the structure arrangements that are placed on them. Or it may be said that the dullness inherent in the plan is merely a reflection of the dullness of the developer, in which case the structures are doomed to the same mold. It is for these reasons, in part, that quality neighborhood design talent shows a singular lack of interest in this form.

Strict rectilinear planning also clashes with recent theories of sound neighborhood structure, which maintains that tighter groupings and clustering of houses bring about not only more effective neighboring, but also a safer and more aesthetic environment. From the practical point of view gridiron plans are deficient for family neighborhood purposes in the fact that each street is a potential traffic artery. Not only is traffic a threat to safety but a blight-producing factor as well. Traffic dangers are also multiplied by the great number of street intersections.

The multiplicity of streets which is bred by rectangular planning increases costs of maintenance to the city. As compared to some other types of neighborhood layout the gridiron version is likely to provide nearly twice the acreage in streets. From this it can also be seen that much area is lost which might have been devoted to additional building lots, larger lots, or neighborhood park area. Because of the greater footage in streets utility operators of sewer, gas, and water lines have their maintenance problems multiplied.

As though all these arguments against the gridiron street system were not enough, there is the additional problem of area

drainage. It is a matter of common observation that as more and more of a land area is covered with pavement, including sidewalks, the land surface which is left to absorb precipitation is drastically reduced and the speed of drainage flow may be greatly accelerated. As a result of this situation, serious storm-water drainage problems can easily arise in a cluster of grid plan neighborhoods that may require millions of dollars in storm sewer installations to abate.

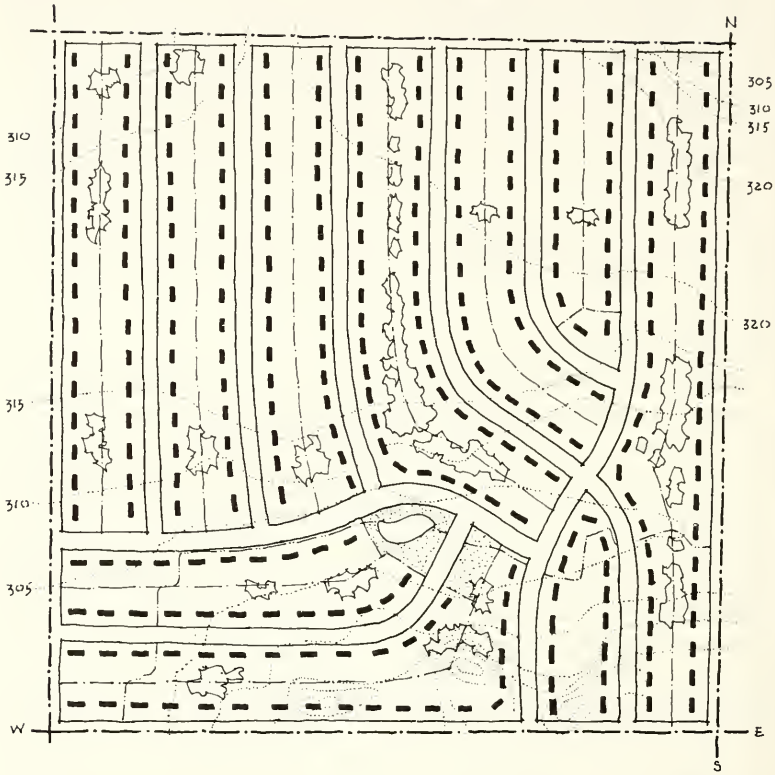
One final criticism of the rectangular approach, and to many the most serious, is its disregard of topography. When a grid system is applied to very hilly terrain it is easy to picture the consequences. Streets may climb straight up steep hills at very sharp grades or they may strike an obtuse angle across such hill country. In the first instance, of the right angle grade, sewer excavation problems will arise along with the more obvious traction problems developing for traffic from snow, ice or even rain on fallen leaves. Home construction on the steeper slopes, while offering a certain amount of glamor, does encounter serious and expensive problems of yard grading and foundation construction. In those cases where the grid strikes an obtuse angle across steep elevations some of the same problems are encountered as with a right angle approach. However, in this situation heavy street cuts into the side hills are necessary. Homes situated on the low side may have to install sump pumps to raise sewage to the sewer line at the higher street level. Or sewer excavations will be forced to go deeper in order to compensate for differences in elevation. Grid planning shows the same disregard for excessively low areas as it does for the high. When the street and lotting plan is extended over low, swampy areas or even pot holes, extensive fill is necessary. It might be thought that if the ground were sufficiently solid the streets and lots could follow the general grade of the terrain. While this is possible in some cases, it must be remembered that the sanitary sewer line cannot deviate very far from the general grade established for it. Therefore, if it were allowed to go down into a depressed area, it would have to make its way up and out again. Here is where difficulties of flow would be encountered. In areas

where many major depressions are found, the number of houses erected on filled land would be multiplied under the grid arrangement. While the fill itself is a cost item of some importance, another problem to be considered is the stability of the structures that are erected on filled land. Uneven settling can cause much costly cracking, and malalignment of walls. Many land planners believe that the low sections of a proposed development area not only fail to make a proper return on investment but have a more appropriate alternate use. Specifically, they believe that such areas have high aesthetic and recreational value as parts of the park and green area system for the subdivision.

Curvilinear Neighborhood Design

Curvilinear subdivision design, although well known in this country after 1900, did not enjoy what might be called wide acceptance until the Federal Housing Administration introduced it into its system of standards for mortgage insurance on new homes in new subdivisions in the mid 1930's. (See Sketch 4). As its name suggests, the street system employed is one which is curved rather than angular in appearance. Depending on conditions of terrain, curvature of a series of streets will generally tend to be in the same direction. To varying degrees the principle of this approach has been incorporated into many departures from the gridiron. Whether the system of land design is the cluster plan, circular lotting, or a superblock, a curvilinear emphasis of some kind can often be found. In many instances conventional curvilinear planning uses a block which will be two to two and a half times the length of that customarily found in the gridiron plan.

The curvilinear plan is claimed to be a definite improvement over the grid from an aesthetic point of view. Monotony is substantially reduced and a rather individual character is built into each neighborhood. A variety of vistas is possible on a single street rather than one. Moreover, the vistas have a definite point of focus at each turning. As might be expected the curvilinear technique is highly elastic and almost infinitely adaptable to varying types of terrain. A designer can,



SKETCH 4
CURVILINEAR OR CONTOUR DEVELOPMENT PATTERN

by using curved streets, work with the natural form of the land rather than against it and thereby save on grading costs. The result is a composition pleasing to the eye both from within the neighborhood as well as from outside it. Adaptation of the street system to the topography also allows for far more efficient and economical drainage that with the gridiron plan. This elasticity of design is particularly desirable when the preservation of

natural features is sought. Beautiful large trees, interesting rock formations, or minor but fortunately placed prominences might well disappear before the bulldozer and grader if a grid were applied.

With the substantial reduction in the number of cross streets which occurs in curved large block design, further aesthetic and economic gains are registered. Elimination of excess street area can be devoted to additional building lots and open spaces. The desirability of reduced street area is most noticeable to the automobile driver and probably to the air traveler. In moving rapidly through or over a neighborhood arranged on the rectangular plan a very choppy, nervous pattern is impressed on the observer. Just the reverse with a curved approach, where the large blocks combined with the winding or arc-formed streets create an atmosphere of composure along with variety.

Lot shapes are influenced in varying degrees by curvilinear planning. Depending on the degree of street curvature, lots in this type of design can vary in geometric form all the way from the rectangular to the triangular and even oblate. In aesthetic terms this means that there can be a great variety of lot shapes and sizes within any one neighborhood. This situation not only provides greater opportunity for individualized selection of land but also means that residence structure placement and even type can be effectively varied. Such opportunity for variation creates the potential for more beautiful, interesting, and liveable neighborhood scapes.

Open space planning also seems to have a better chance under the curvilinear technique. One possibility arises with street intersections. In the gridiron, street intersections generally must be left open for traffic movement. With a free form street system, intersections and street entries can be so arranged that attractive flower and shrub plantings will greatly beautify and flavor the entire environment. Park and school grounds seem to integrate much better with surrounding residential areas under this approach. In the grid plan, the school or park on its individual block tends to stand out rather starkly and in a sharply separated way from the adjoining homes. Part of the aesthetic effect of

these open uses is therefore lost. One of the reasons that open space is encouraged in modern neighborhood design is the desire to introduce as many trees as possible. Earlier mention was made of the fact that more natural tree growth can be preserved with free form planning than with the angular. Thus it is that a free-form design in a particular instance may not actually have much reserved public open space but will give the impression of natural openness by virtue of the preserved tree groupings. Straight-line tree plantings in the grid form may, in a specific case, be more numerous than in the free form but do not always give the same favorable total effect.

Defects of Curvilinear System. Despite its progressive features the curvilinear approach has defects. These must be placed in the balance in order to obtain a proper impression of this design device as a means of creating something which may at least approximate the ideal contemporary neighborhood.

Curvilinear street and block planning is applied by developers of widely differing skills. Many times a developer proceeding under the impression that free-form planning is the best for extremes of topography will run his streets at right angles with the grade along the side of a hill. This treatment will result in about the same problems of excavation, grading, and sewer operation that are encountered when a grid system is planted at an oblique angle to extreme grades. The side hill free form street is also open to criticism aesthetically. While it may provide noble views from the hill, these views may possibly be of other house rows at lower levels and a panorama of development which might be in a raw stage for many years.

Another defect that often results from misapplication of this system is the extreme curving of streets. This will not only result in some public service problems, such as snow removal, but will also contribute to odd shaped lots that may so complicate the process of siting a building that the expense of a successful solution will be burdensome to the owner.

In aesthetic terms this type of street design may be very attractive for the pedestrian or driver. However, structure siting which is not properly controlled can result in a very ragged and

uncoordinated composition of structural forms. On the other hand, in certain very large-scale tract housing developments, street curvature may be so slight or so identical from street to street that monotony simply assumes another form.

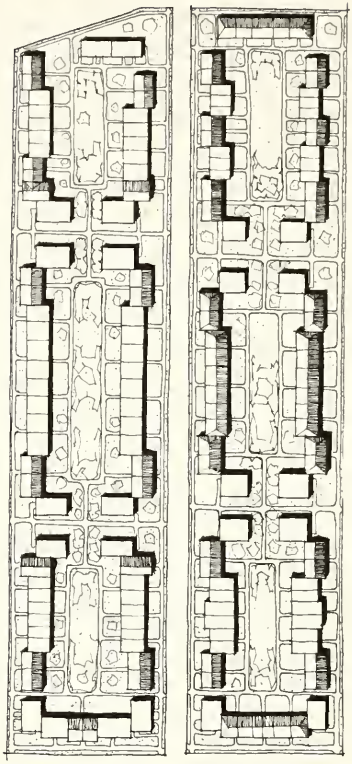
There is some question whether or not the large block is actually a part of the curvilinear concept, for there is no reason why grid blocks cannot also be made longer. In any event the long block can often be an inconvenience. From the pedestrian's point of view, frequent cross streets are a convenience. While the long block may have a cross walk at its mid-point, this is often found to be objectionable from the standpoint of privacy for abutting property owners.

These observations on the long block of the free flow curvilinear plan lead to another land design variation which is worthy of separate attention, the superblock.

Superblock Neighborhood Planning

The superblock is a relatively recent conception in its American version. It was introduced in its pure form in the 1920's. Although intended for the single family and row house it has been used most extensively up until the present by multi-family housing developers. (See Sketch 5). It is not popular with the average subdivider or tract developer. No doubt it has its most encouraging future in connection with co-op rental investment housing as opposed to speculative sales projects.

The name of this land design form is accurate in a descriptive sense. A superblock can most easily be imagined as the product of consolidating two grid blocks along one dimension and three grid blocks along the other dimension to arrive at a six square block area with all the interior streets removed. This is a more generous scale than that shown in the accompanying sketch, which is an average application of the idea. Residences, row and single, are arranged around the periphery of this giant block with their backs to the street. The block interior is basically a green area but has various detail treatments. In its simplest form the block interior is an immense park with a scattering of playing fields. Individual yards facing the interior are small in



SKETCH 5
SUPERBLOCK DESIGN: SINGLE, TWO, AND ROW FAMILY STRUCTURES

area and contain what substantial flower plantings there are in this consolidated neighborhood. However, basic landscaping including special trees, shrubs, and walkways are provided for the central commons. In more elaborate forms the interior may have a swimming pool, a skating ring, playing fields, and a small community center building. If the superblock is large enough an elementary school may be introduced into this core.

From a design point of view, the superblock concept is clearly not elaborate. However, in its simplicity it is revolutionary. It combines traditional block systems on a large scale. It does not merely make traditional blocks larger; it completely reverses the physical and social orientation of the house, and green areas are employed in a completely new way as they relate

to the home. The aesthetic strength of the plan is obvious. The focus of the living area of the house is turned away from the street and the rigid line of structures across that street. It looks inward upon a spacious tree-lined common. A desire for this sort of structure orientation is to be observed in traditional subdivisions where owner-builders have turned the house around in order to enjoy the beauty and secluded view of their rear areas rather than their front yards. When this turning of the structure is attempted on a more conventional land design, the effect is not wholly satisfactory. In the absence of protective fencing or shrubbery, the rear view is one of a clutter of backyards and rear structure elevations which may not be as pleasing or well maintained as the front. This weakness is largely overcome in the superblock not only by the greater distances between structures across the large block core but also by the fact that the "fronts" of the houses are all facing one another. In order to compensate for the rather large allocations of space to green area, structure density is often increased by means of the semi-detached or two-family structure, by four-unit row houses, and by garden and town house apartments. It is possible by this means to obtain the density necessary to project profitability and to avoid uselessly narrow side yard space typical to conventional subdivisions. Where row houses and garden apartments predominate in a superblock, it is possible to increase the degree of spaciousness by increasing sideyard areas. Recent versions of the superblock have experimented with the idea of clustering row or town houses near the block center rather than distributing them around the edges. This arrangement has resulted in greater privacy and in an increased sense of immersion in and integration with the green area.

There are a number of other respects in which the superblock is a superior design concept for the neighborhood. It is clear that the consolidation of recreation and open area has not only greater efficiency but also greater visual effectiveness. Many a traditional subdivision may have more open space per family than does the superblock but it is so fragmented that it loses much of its aesthetic impact. Maximum accessibility of the re-

creation and common areas to all families in the block means that facilities and space will be used to the fullest extent. Child safety is a paramount advantage of this design, particularly when an elementary school is incorporated into the block plan. In a sociological sense the superblock is one of the most effective devices known for creating a cohesive neighborhood unit. The assumption is that the inward orientation of houses will encourage inter-family contact to a greater extent than would occur across a neighborhood street. An even stronger force that tends to bring families into closer contact is the central play area of the block.

Flaws in Superblock Idea. As might be expected the critics of a plan which is so radical are not voiceless. It is pointed out with some vehemence by these critics that the inward orientation concept encourages neighborhood "nationalism" and undemocratic exclusiveness. The implication that "your kids can't play in our block" might become a common attitude. This sort of discrimination may develop despite the fact that the property taxes of other families are helping to support the recreational system and, possibly, a school. At the other extreme are those critics who point out that the ordinary superblock will fail to contribute anything beyond the average range of neighborhood contacts because the great width of the open core discourages such association. On the aesthetic side of the argument the point is made that streets lined with a string of residences and row houses of which only the rear is visible will not be the most beautiful arrangement for our neighborhood areas.

It is alleged that if the superblock is to be developed with single family residences such neighborhoods will be available only to the very wealthy. This would be true because of the immense acreage cost that must necessarily be carried by each of the private property owners. Dedication of the common core area to the municipality would eliminate maintenance expense but would in no way remove the necessity on the developer's part of picking up original high capital costs produced by the design for the separate lots. If the superblock is to be made available to middle income families, it is necessary to

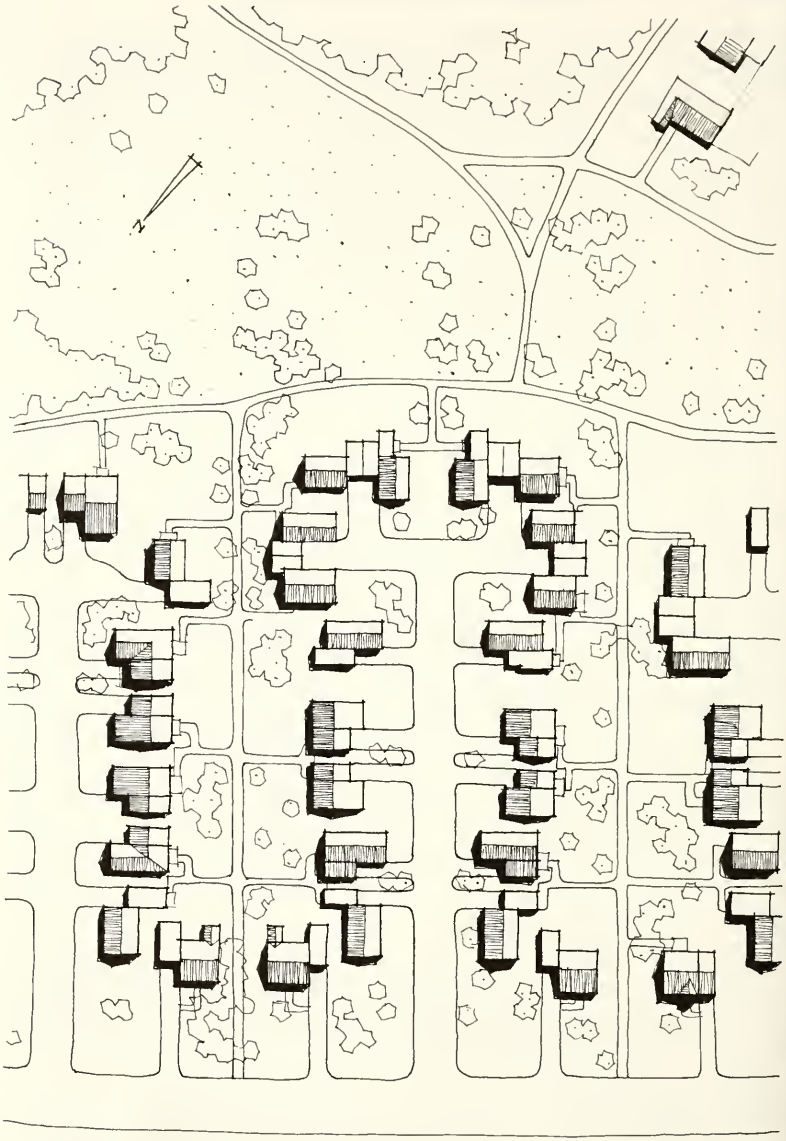
introduce row housing and garden apartments. Of the two structure types, the row house is considered more appropriate to family neighborhood living because of its greater unit floor area. If the row house, four units to the structure, is to be the appropriate development form for the superblock there are at least two basic prejudices prevalent in America which must first be overcome. One of these prejudices is against the row house itself. National preference still runs strongly in favor of the detached residence and the individual rear yard. The average consumer is likely to argue that he has no more privacy in the row house than in an apartment building. He feels, moreover, that row housing is rental housing and what he really wants is ownership. Cooperative ownership (condominium type) of a unit in a row house structure is still not a sufficiently convincing form of freehold in his mind for what is essentially open-type neighborhood development. In other words, while he might accept the idea of cooperative ownership of an apartment in a multi-family structure he is not yet sympathetic to the idea in other forms. Therefore, before the superblock idea can be employed on a widespread basis as a neighborhood design plan, men's ideas of property tenure must first adjust to unfamiliar forms.

Finally, it has been pointed out that the superblock is usually a rectangle and for this reason is subject to many of the criticisms leveled at the gridiron plan. In this connection, however, it must be kept in mind that the superblock for many reasons has not been used widely by a great variety of land developers and builders. Therefore, criticisms of its misapplication as a basic grid form are completely theoretical.

The Radburn plan is a land and neighborhood design form which is a specialized variation of the superblock. In examining the concept, principal emphasis will be placed on variations from the superblock system.

The Radburn Plan

Created by those gifted neighborhood designers, Henry Wright and Clarence Stein, Radburn, New Jersey, has become the individualized contribution of this country to the art of land



SKETCH 6
RADBURN PLAN: DETAIL OF A NEIGHBORHOOD AREA

planning. In common with the superblock, the Radburn Plan has been highly controversial. It has served as a veritable quarry of ideas, many of which appear in slightly altered or even aborted form in many more conventional developments throughout the United States. Radburn was, in large part, the design inspiration of the three Greenbelt cities erected by the federal government during the New Deal era of the 1930's. These in turn have also stimulated thought in the field of neighborhood design and have been copied in more modern forms of new town developments such as Oak Ridge and Los Alamos. The privately financed industrial new town of Kittimatt, British Columbia, and the new town of Don Mills in Toronto likewise stem from these common roots.

The Radburn concept is essentially that of the superblock. Its principal contribution by way of variation on this basic plan is found in the street system and structure siting arrangements. In essence, the plan is one in which cul-de-sacs branch at right angles from the boundary streets a large part of the way around the periphery of a superblock system. These cul-de-sacs are from 400 to 450 feet in length and terminate where the common area of the block core begins. (See Sketches 6 and 7). Alternating with the cul-de-sacs around the block periphery, are sidewalk and hedge combinations which are midway between and parallel to the cul-de-sacs. They are of about the same length as these streets. In the open areas between the sidewalks and the cul-de-sacs are placed the residences which face the hedged sidewalk over moderately deep yards and back upon the cul-de-sac. In the plan, either the single family residence or the row house is employed. The block core is developed along the lines previously described in connection with the superblock. However, the open area is maintained on a cooperatively supported basis. A specially designed shopping center adjoins the original Radburn. The founders of the community had hoped to integrate it with a small industrial concentration in which the residents could find convenient employment but this did not materialize.

Aside from the advantages which go with the superblock plan, there are many that are unique to the Radburn variation. One distinct strength of the plan is that it can accommodate

SKETCH 7
General Site Plan for Northeast Portion of Radburn, N. J.

modest single family residences in numbers sufficient to make the superblock approach financially attractive to both the investor and the home owner. On the other hand, the density of the single family residences is not so great that side yard privacy and the sense of immediate yard spaciousness is impaired. Evasion of main arterial traffic is much more complete under the Radburn plan than with the traditional superblock system. This arises from the fact that only two structures in the structure ranks backing on each cul-de-sac have direct driveway access to the principal boundary arterials. From the description of the street layout, it is evident that the sidewalk system is separated both from the interior cul-de-sac street system and from the arterials. This, again, is an advantage absent from the superblock plan as well as from that of more conventional design systems. Cul-de-sacs prevent the circulation of through traffic. Therefore, although the block is penetrated with extensive street area, the traffic on these streets is, perforce, slow moving. Because each house is set far back on its lot close to the cul-de-sac and relatively distant from the central hedge-lined walk, the usable yard space is substantial. Access to the common area is no more than 600 feet distant at maximum; no street need be crossed in reaching it. One unusual strength of the plan is the fact that opportunity for development of a close-knit neighborhood life is at a maximum. Rows of residences are not separated by a wide street and moving traffic. Moreover, children playing in the area between the facing rows act as an active bond among the households.

Drawbacks of Radburn Plan. Objections to the Radburn idea center principally on the cul-de-sac system. It is said of cul-de-sacs that they are likely to give much trouble with sewer operation because of insufficient length and degree of drainage grade. Water mains layed with a series of stub ends are also troublesome from a maintenance point of view. However, if the main is looped through the cul-de-sac it is much more costly than the traditional, continuous single line. Some municipal departments object to the peculiarities of servicing such streets. In particular the removal of snow is said to be difficult because of problems encountered in turning cumbersome

equipment at the street end. Garbage and trash collection procedures are said to be inefficient on cul-de-sacs because the crews must dead-head back to the main street when they have finished work on the cul-de-sac. Fire equipment of any length also has turning difficulties at the street end. Even members of the post office staff are said to find back-tracking a demoralizing process.

Some city traffic departments object to this street form on two counts. One objection is that traffic strange to the neighborhood becomes badly snarled in a maze of dead-end streets. Another traffic fault is that the volume of vehicles passing a group of houses is doubled. This comes about because vehicles which enter the street and stop in front of a residence tend, when resuming their journey, to drive on to the street end, turn, and back-track to the main traffic artery.

A more generalized drawback to the Radburn plan is the fact that the area of the block absorbed in street and sidewalk surfaces is much greater than in the case of the simple superblock. The arrangement of front yards facing on a common sidewalk also has flaws. In one respect the homeowner is given little rest and privacy. While he does have a streetless, well landscaped prospect from his front window, the central walk, hedge-lined though it may be, becomes a major artery for children's high speed play equipment. There seems to be, moreover, an unwritten law that these yards shall not be fenced, a position that for some reason, is not frowned upon as much where rear yards are concerned. Hence the individual adult may well find his yard as well as the front walk an arena of violent activity rather than a quiet haven from the harried world. If the city dweller is seeking a modicum of privacy there is also the fact that the residences in the Radburn plan are much closer to one another than in traditional plans. This observation applies not so much to the side yards, which may be standard, but to the distance from houses "across the way." Only a six foot walkway separates the front yards. While this arrangement may be the best for close neighborhood relations, there is always some question concerning how close a person wants his neighbors to be. Finally, critics point to the fact that while the common green area is close at hand, it

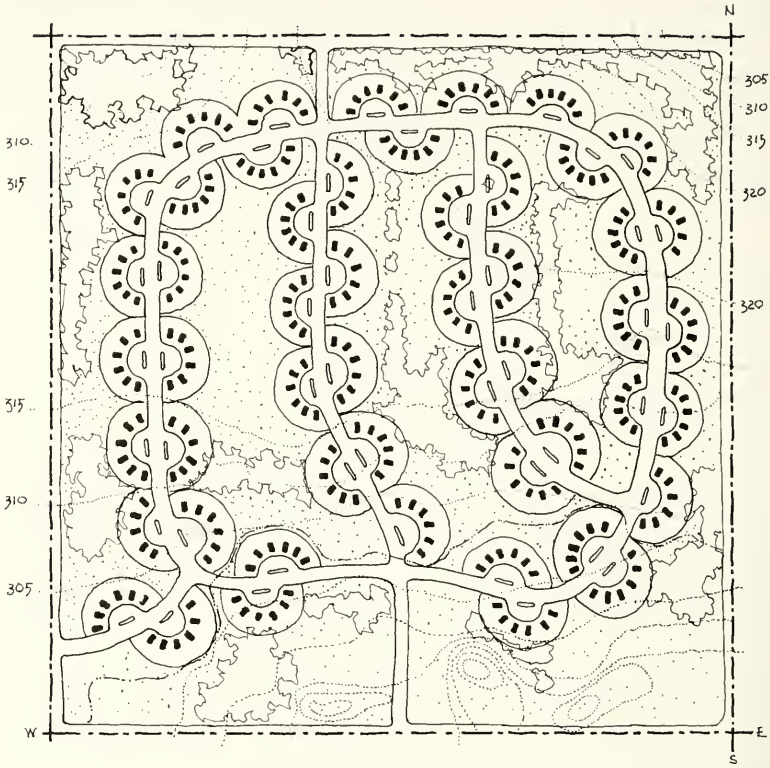
is, except for the two houses at the street end, not really integrated with the residence pattern. Consequently, the aesthetic strength of the basic superblock plan and its close identification with nature is greatly diluted in the Radburn scheme.

The Cluster Plan

This design concept is an outgrowth of the superblock and Radburn concepts, with some overtones of basic curvilinear planning.

The most recent of American neighborhood design applications, the plan is essentially a creation of the 1950's. The street plan of a cluster-type development closely resembles a simple curvilinear plan except for the fact that there are far fewer streets. However, the lot arrangement sets the stamp of individuality on this approach. As accompanying Sketch 8 shows, lots may be arranged in semi-circular clusters of six staggered along a winding street system. A small boulevard strip or segment at the base of each semi-circle tends to shield most of the cluster from the street proper. Individual lots in the cluster, which may be from one-half to one acre in size, back on a common green area such as that described in the superblock and Radburn plans. Unlike these plans, however, most current versions of the cluster have street systems which completely bisect the development area meeting boundary arterials at several points. Some versions of the cluster plan avoid excessive bisecting and, in addition, place the residence cluster at the end of and along lengthy cul-de-sacs.

Numerous advantages are claimed of this, as yet, experimental neighborhood form. Clustering of dwellings reduces street area and utility installation requirements by about 50 per cent when compared to the curvilinear system, even further in the case of the rectilinear system. It is clear from the sketch that under the cluster plan spacious private lots are combined with the common green area system to give both the privacy, safety, and contact with nature which are increasingly in demand. In terms of its relation to automobile parking and traffic flow, the plan has distinct advantages. All versions of the cluster plan



SKETCH 8
CLUSTER PLAN FOR SINGLE FAMILY UNITS

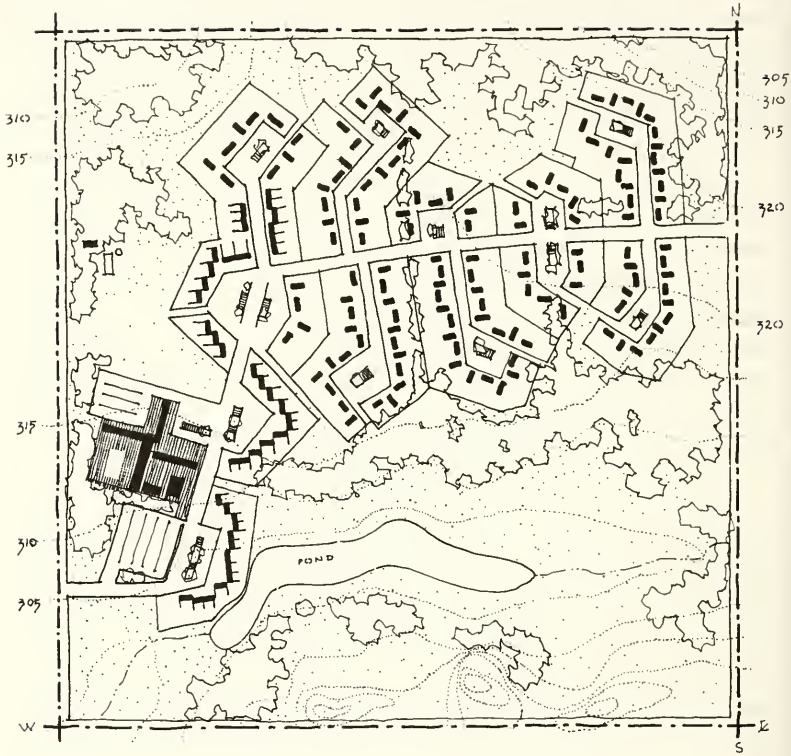
employ the off-street parking court. Since the living areas of all houses face in toward the common, these courts are not visually offensive to individual householders. Their relationship to the parked car is about the same as that found in the Radburn cul-de-sac design. Moreover, with parked cars removed from the street, circulation is greatly improved. It is also argued that a freely bisecting street system as employed in some cluster versions

makes for greater ease of circulation within the development but does not represent a safety threat or a nuisance because of the relatively sequestered position of the houses in relation to the street. Many of the objections to the cul-de-sac are overcome by virtue of the fact that access to residences is by means of a short two-way loop. Aside from traffic considerations, it is probably true that the cluster plan has greater flexibility than pure forms of the superblock and the Radburn approach.

The relative novelty of the cluster principle of neighborhood development in this country has resulted in more than one interpretation. Some planners and developers oppose the large, one acre lot cluster system. They claim that modern demand is for smaller lots of less than 15,000 square feet. Today's householder, they maintain, wants less rather than more yard maintenance work and, at the same time, more conveniently accessible open space. This seeming paradox can be reconciled by the cluster plan at low cost to the individual owner.

Cluster subdivision planning has sufficient flexibility to enable the creation of integrated housing type neighborhoods of maximum aesthetic appeal and liveability. Some idea of the potential of the principle in these respects can be gained from Sketch 9 which shows a more complicated cluster plan set down on the same raw land base as that employed for the rectangular, curvilinear, and simplified cluster plans. The plan of Sketch 9 employs one major street from which branch a series of open-end courts. This arrangement permits the installation of only *one* sewer main and a series of service laterals for the courts. The single collector street also contributes to privacy within the development. In this plan the marsh has been developed into a pond and a generally more efficient aggregation of open space exists than in any of the other plans mentioned here. The farm buildings have been retained. In restricted operation they can provide an interesting cultural adjunct to the recreational and aesthetic values already created by the open space and the pond.

There are three housing types available in this development. The central and eastern areas contain single family residences. At the western edge are aggregations of row housing. In the



SKETCH 9
CLUSTER PLAN FOR SINGLE, ROW, AND MULTIPLE FAMILY UNITS AND A SERVICE CENTER

southwest corner of the development appears a building complex which includes slab high rise apartment structures, a community building, and a shopping center. These structures are placed on a large, planted, mosaic tiled yard area in which a pool has been placed. Parking lots are provided on two sides of this community core.

Objections, to cluster planning are, as yet, hazily formed because of the short testing period to which the idea has been subjected. Some criticism has been raised against cluster versions with an excessive number of bisecting streets. However, this feature is neither a consistent nor an indigenous characteristic of the idea. It is also argued against the plan that the vitality and permanence of neighborhood association control, in lieu of public ownership, of commons areas has not yet been established to the satisfaction of planning boards and agencies. Where maintenance of the commons area is in the hands of the municipality, objections are raised to the cost. It is argued that if these commons appear in block after block of newly developed areas the public expense will be so great that development of large public parks will be seriously discouraged. On the other hand special assessments levied on cluster development residents may place this type of living in too high an operating cost bracket. While cluster version parking areas will simplify the maintenance of secondary streets, problems of snow removal and cleaning will be encountered within these areas unless a privately maintained structural shelter system for the automobiles is developed. No doubt home owners in northern climates would favor either shelters in the off-street bays or traditional garages situated on their own parcel of land. Another limitation of the cluster approach is the fact that the minimum amount of acreage necessary to make the plan work is too large to be financially feasible for the average land subdivider. Even for the larger scale operator there exist problems of land assembly and proper shaping of the parcel. On cramped acreage or acreage in shapes other than the square, large rectangle, or circle the cluster plan is likely to be a failure in the aesthetic if not the financial sense. Finally, it is absolutely necessary that a cluster subdivision have either deed restrictions or zoning that will control the architecture and, particularly, the siting of structures within it. Without such controls over the closely grouped units, family privacy may be impaired and the total appearance of the neighborhood seriously damaged. On the other hand it is not a simple matter to draft and enforce

restrictions of this type where residences or even group housing is erected on an independent rather than a project basis.

Emerging Design Principles

In summary, it is possible at this point to identify, in a general way, some of the principles of neighborhood design that are evolving in this country. There is a trend away from the gridiron plan in its traditional form. Elements of the gridiron may well remain in the basic shape of the superblock and the regularity of lot shapes in the milder curvilinear designs. That bolder versions of the gridiron plan, such as Wright's swastika design, will take hold in this country is doubtful unless the concept is picked up again and retouched by some land planner, architect or landscape architect of note. Current neighborhood planning has at least two distinct characteristics. One of these is the presence of a much greater degree of sound, well conceived design than formerly. It is a long way from perfection. But under the pressure of local government standards, lender's standards, and a growing consciousness on the part of developers themselves of the profits which lie in quality land design, progress is being made. The other major characteristic, which is an outgrowth of the first, is the growing respect on the part of participants in land development for the natural features of the land. Irregular land contours, tree groupings, large rocks, casual water, rocky gulleys are more frequently viewed as advantages rather than obstacles by the developer and as individual beauties worthy of premium prices, by the purchaser and resident. Appreciation of and demand for these single elements of nature that combine so happily with the urban scene is but the detail of a broader demand for green space and skylines that are treetops rather than television masts. Expression of this last is evident in the superblock, Radburn, and the cluster approaches.

There are, or course, other broad forces which are molding land design in society today. While aesthetics has played a part in the guiding of neighborhood planning, it has nonetheless played a secondary role. One of the major molding forces has

been the concern of our society for child welfare. Physical safety has been the focal point of much of this concern particularly in view of our involvement in the auto age. The Radburn and Greenbelt plans have, to date, gone to the greatest lengths in reconciling design with safety. In a neighborhood designed according to the Radburn plan a pre-school and elementary school age child can lead a relatively complete life without having to cross a street. In the Greenbelt cities, which were physically much more extensive than Radburn, underpasses beneath major traffic arterials were constructed to insure child safety. In more traditional designs the cul-de-sac is often promoted because it discourages both fast moving and high volume traffic. In this connection it is rather contradictory to hear suburbanites argue against "city sidewalks" when it is recalled that they are the foremost protectors of the child. Not only safe but easy accessibility to an elementary school has set its imprint on design. The importance of this relationship of school and home in terms both of distance and conditions of travel is evident from the plans which have been discussed thus far. Similarly, proper integration of home, school, and outdoor recreational areas has been deemed a must for sound child rearing and has begun to leave a more definite imprint on how a neighborhood is put together.

From what has been said on questions of child safety, it should be apparent that another force which is leaving its imprint on design is the automobile. Influence of the automobile on design must be looked at in both positive and negative senses. On the positive side, it is felt that street design must accommodate vehicles in such a way that circulation will be quick and easy. We have about conceded that while the gridiron is perhaps the best design for quick and easy flow, it has other characteristics which tend to more than counterbalance this advantage. The loop street is one street design device, which has been in vogue in curvilinear systems in large measure because it facilitates circulation. Criticism of the cul-de-sac is made, of course, on opposite grounds. In an attempt to reduce accidents involving vehicles, the right angle intersection is favored over the

oblique and acute angle intersections that might develop from a too free application of the curvilinear approach. Regulation of on-street parking by means of design has a close relation to the objective of maintaining adequate traffic circulation. While some believe that greater street widths are the answer, others argue that this is a costly solution. The final answer may be the relatively narrow street with parking bays in front of each property.

On the negative side of the question there are characteristics of traffic which must be controlled because they are objectionable. The visual aspects of traffic at rest or in motion are not always the most exalting. In the Radburn plan a conscious effort was made to put traffic out of sight and to some extent out of hearing range. One widespread solution which is almost a design concept in itself is the self-contained subdivision with only one or two points of access to the outside arterial system. Examples may clarify the idea of this rather familiar device. There are in increasing numbers throughout the country subdivisions which are suspended like giant squash or pumpkins from a main highway arterial or principal stem. A single street connects them with the highway system of the community. As a result they are isolated from through traffic and the degree to which the neighborhood is annoyed by internal traffic circulation is dependent upon the particular street and land design used. Another version is that in which the neighborhood development can be visualized as a square. Major arterial streets make up the sides of the square. The entrance to the subdivision appears at one corner or at the midpoint of one side of the square. No other street contact with the boundary arterials may exist. The internal design of the area may be almost any type with the exception of the common gridiron. Ordinarily, rather average curvilinear planning is encountered in this situation. All individual properties which touch the bounding arterials turn their backs to these traffic ways and face a quiet internal street. As might be expected, in the larger developments of this type, a core block will be reserved for an elementary school and for general park purposes.

Returning momentarily to the subject of aesthetics, a change

in subdivision practice which is certainly indicative of increasing sensitivity to appearances on the part of housing consumers pertains to utility installation practices. Over the years it has been routine procedure on the part of utility companies to string telephone and electric light wires from poles erected along the street in front of the houses. This seemed so customary and right that little objection was raised until the 1920's. At about that time more progressive developers began to place poles and wires along an easement on the center line of the block in back of the houses. It has been within only very recent years that telephone companies have begun burying their service cables and lead-ins. Thus far electric power companies have, in a majority of cases, resisted this latter trend. While a seemingly small matter in an overall neighborhood design, it is one of the little things which can make or break the effectiveness of a total visual composition.

Another general tendency which has been making its appearance through the various stages of neighborhood design evolution has been that of conscious neighborhood unit formation. One criticism of the gridiron was that it was faceless in a neighborhood sense. Residential districts of a city so constructed went on block after block in all directions. There was no conscious effort to establish community boundaries and identities. Schools and even neighborhood centers were thrown in here and there as population growth demanded. With increasing urbanization and impersonalization of human relationships in the big city a need arose for establishing local roots for more direct and regular personal contacts, as well as for a means whereby the individual could realize some personal recognition among his fellows. It was also felt that child welfare needed something more than the stability which comes with normal family life, it needed a tight, clearly identified outside environment in which the home-work-play cycle would be under some kind of control and comprehension by the families which composed a residential area. The physical evidences of this need are strongly apparent in the superblock idea, the Radburn plan, and the cluster plan. In the Radburn and cluster approaches, the neighborhood structure is broken down into tight segments or sub-neighborhoods. In the

Radburn version the two lines of houses which face each other across a common walk represent a sub-neighborhood which has a remarkable potential for intercommunication and regular contacts. The same is true of the sub-neighborhoods in the cluster plan. The physical means are provided via the green commons and a school for bringing together residents of the various sub-neighborhoods. In any of the self contained neighborhoods, regardless of design, some degree of close neighboring will occur. It is simply accentuated in those designs which provide sharply outlined sub-neighborhoods.

There is one phenomenon of residential area composition which is both influencing and is being influenced by recent trends in urban design. This phenomenon is that of mixed neighborhoods. The term "mixing" as used here means the combination of single family residences with row houses and tall multi-family structures in the same development area. It does not suggest an indiscriminate mixture but, rather, a well balanced combination of buildings in both a visual and economic sense. As noted in the chapter on zoning, this is rather a revolutionary concept. We have tended to think from the beginning of formal zoning in this country in terms of pure zones of use particularly in residential districts. Why, then, this apparent shift in our thinking? Among the various reasons which may be put forward by way of explanation, it is hard to assign proper priorities. When people are presented with the idea of a consummated development of mixed housing standing on a superblock complete with green areas, elementary school, swimming pool and adjoining shopping center, they seem to react positively. This contrasts with their negative reaction to a proposal to rezone a standard neighborhood, grid or curvilinear, with a similar mixture of land uses. These reactions are understandable. In the first case the traditionally conflicting uses have been combined in such a way and in such an environment that most of the prejudices and well founded objections to use mixture are either overcome or mitigated. For example, the traffic problem is well controlled, and fears revolving about social status are largely overcome by the

character, spacing, and cost of the apartment structures. In the second case, the resident or householder has no such feeling of security. On the one hand the basic land plan of the standard neighborhood is not suited even to spaced mixtures in which one block is devoted to apartment buildings, one to row housing, and so on. Moreover, there is a very good chance under our present system of zoning that promiscuous rather than selective mixture would take place with all the dire consequences that accompany it such as a sharp reduction in light, air and privacy for the single family and row house structures.

From a purely aesthetic view the mixed development approach has much to offer. When the overall design of mixed projects is handled by a competent architectural firm, the product is one of exciting contrasts both in vista and skyline; this, as opposed to mile after mile of one story ranch rooftops, broken only occasionally by a split level erected on flat land. As Mumford has so aptly said; "There is no architectural substitute for the variety and stir and color of a real neighborhood[1]." While there is little agreement concerning the ingredients of a "real neighborhood," the principle of mixing has the potential for providing the physical elements of this formula. Moreover, by the variety of its housing type offerings, it makes possible the even more important human variations which may contribute to "stir and color." In his appraisal of the New York Life Insurance Company project, Fresh Meadows, Mumford concluded that the group of buildings formed ". . . not just 'housing' but a beautiful community—complex and many sided and serene.[2]"

Is is argued more and more frequently that in a sociological sense, the mixed development is a wholesome form. The essence of this point of view, which was devoloped in the zoning chapter, is that the life span of the family cycle can run its course within the narrowly circumscribed limits of the neighborhood, providing it has a range of housing types available. With physical movement over the face of the city from one specialized housing area to another greatly reduced, interfamily, intrafamily, and general neighborhood relationships would be stabilized and strengthened.

Aesthetic Zoning

It has been only within the past ten years that ambitious attempts have been made to impose some degree of design control over residences by means of the zoning ordinance. These ordinance provisions, usually referred to as "no-look-alike" regulations, pertain most frequently to large housing tract developments. Reduction of monotony is the usual objective in these instances. Another variety of zoning control which seems to be the exact opposite of this device is the "must-look-alike" provision. Application of this type of restriction is most common in the higher priced select neighborhoods. Actually the objectives of these two concepts are the same. They both aim at proper blending of individual structural forms in order to arrive at a harmonious architectural whole.

Zoning regulations of this type are both new and highly controversial. They are a long way from complete acceptance by the average citizen. Planners, lawyers, and the courts feel that there exist many complexities of application and interpretation that must be overcome before such regulations can be either acceptable or effective.[3] Because of the controversial nature of the idea of aesthetic controls a question naturally arises concerning the nature of the basic arguments which are raised both in opposition and defense. From an examination of these points of view, it is possible not only to obtain a better understanding of the workings of this variety of control but also to gain better perspective on the question of its utility.

No-look-alike Zoning

The reasoning which supports the development and spread of no-look-alike control of housing design is in no way complicated but nonetheless convincing.

Most people would agree that from an aesthetic point of view anything that we can do to relieve the deadly visual monotony of the average large-scale tract development is progress. When a tract builder operates with a maximum of one or two structural models placed on a rectangular treeless plot, the

effect is not only one of monotony but also of desolation.[4] Urban sociologists emphasize with increasing frequency the effects which different urban environments have upon the human mind. If these findings are reliable it is disturbing to contemplate the type of human being who is a reflection of the modern assembly line neighborhood.

It is not enough for the tract builder to answer this criticism by saying that his house design is an excellent one, which it well may be. Two thousand editions of a prize winning design side by side, street after street, assume a total design which is actually objectionable. Property appraisers have long pointed out that excessive sameness of house design within a neighborhood can undermine values. The reaction of value to monotony may not be immediate. In a very tight housing market, houses in a monotonous development tract will usually sell as well as any others. However, in average and weak markets their sales price may be well under that expected by the builder. In those cases where the initial selling price was supported by a strong market, subsequent value decline because of deficient design will be the legacy of the owner. Loss of taxable values to the public treasury is an ultimate certainty regardless of the initial situation. Closely linked to the argument of impaired value is the potential for blight. The point is made that structures which are identical in appearance, or nearly so, weaken the pride of the owner in his property. As a consequence, his incentive to maintain his structure and yard are substantially weakened. Blight may show itself at an early point in the life span of the neighborhood. Another factor which may be related to blight potential is the repetition of error. In a house design which is repeated hundreds of times within a single tract development mistakes of design and construction as well as faults of equipment are repeated as many times and can literally brand an area. It can become facetiously known as "Cold Floor Acres" or "Leaky Roof Hills."

Certain relatively obvious market characteristics of identical housing are worthy of brief note. Extensive duplication of a design will suggest to many potential purchasers that the housing product is of assembly line origin and, hence, is of inferior

quality. Even though a house is factory built this prejudice can be mitigated to a marked degree by the mixing of a half dozen designs along each street. In this connection, it is worth pointing out that standardized mixing on street after street can also become monotonous. Therefore such mixing has to be carried out with great care. From a market-wide point of view, it is clear that heavy injections of identical designs into a community will severely restrict the consumer's range of selection. While he may still have good locational selection, his choice of exterior design and interior floor plan and even equipment type can be seriously reduced. When design duplication extends to the number of bedrooms involved in the house, as it frequently does, then entire neighborhoods can be in for serious trouble. Such trouble arises from the fact that the demand for certain bedroom counts per unit often experience cycles both short and long. Hence a stable neighborhood is likely to be one that has a fair range of offerings in this respect. A classic example, mentioned in an earlier chapter, is that of the heavy demand for two-bedroom houses immediately following World War II. This demand was soon replaced by equally heavy pressure for three-bedroom units thus leaving the two-bedroom homes with very high rates of vacancy in most communities.

From a broad psychological standpoint we are all concerned over cultural pressures which tend to bury individuality. Certainly sameness in housing stock can add several shovelsfull of anonymity to the grave.

Arguments Against No-Look-Alike Zoning

Strange as it may seem some architects have opposed attempts to reduce the sameness of residential design by means of zoning. Julian Whittlesey, A.I.A., points out that: "These laws . . . stand in the way; for where they require every house to be different from its neighbor, this makes it impossible to compose pleasant house groupings which rely on a degree of similarity and orderliness . . . Variety does, indeed play a part, but unless it is governed by some significant underlying principles, little or nothing is achieved."

"No-look-alike variety may lift monotony from half a dozen houses, but the price paid is a heavy one, namely a feeling of general confusion and disorder."[5]

Findings of a joint committee of architects support the view that the crucial basis of the aesthetic effect in home architecture is to be found in the overall neighborhood design in which groups of houses and a street system are fitted into a natural terrain.[6] The effect is not attained by controlling the details of individual house facades. Siting of the building on the lot, siting in relation to other buildings, careful integration of building and landscaping and the like, can go a very long way toward the creation of a pleasant neighborhood atmosphere when identical structure plans are used. Much more offensive than identical facades is the uniform setback which gives the "sausage-string" or "spaghetti" effect to many of our modern tract developments.

The individual builder or prefabricator with a simple good plan can create a measure of variety by a simple flip-over or siting variation of adjoining plans. If, for example, an L-shaped house plan is employed, the adjoining plan or plan combinations can create an interesting effect in one of the following arrangements: ⌋ ⌊ ; ⌊ ⌋; ⌊ ⌊ ⌋ ⌋; ⌊ ⌉.

The essence of the argument so far seems to be that aesthetic zoning too often works against symmetry and balance.

When the argument swings to the economic side of the picture, several important points appear in opposition to no-look-alike zoning. Among these rebuttals, one of the most forceful is the fact that site and prefabricators would be discouraged from entering a community. It is true that the exclusion of this type of building activity is often one of the objectives of such ordinances. However, low and middle income citizens of the communities involved are thereby deprived of reasonably priced housing of good design. For the same reason, the rate at which housing volume can build up in a community is appreciably slowed. This situation may not only push up rents and sales prices but may also contribute to the accelerated aging of the housing stock and hence stimulate blight in older structures already below the middle of the local value range. An additional point against no-

look-alike zoning is that it will delay many desirable features of standardization in the housing industry.

Finally, there is the very basic question as to whether or not it is possible to legislate good design effect in a neighborhood. There is strong reason to believe that this cannot be done in the somewhat mechanical manner in which it is currently conceived. Moreover, where aesthetic questions are at issue, it is almost impossible to speak in terms of ultimate and universal criteria. No doubt private architectural review boards staffed with competent architects and neighborhood designers can succeed in the creation of such standards for individual subdivisions. At the public enforcement level there are, as yet, few encouraging signs of this sort of professional supervision.

Must-look-alike Zoning

As explained at the beginning of the discussion on aesthetic zoning, the "must-look-alike" approach is concerned not with uniformity *per se* but with the preservation of a particular architectural style. Rody and Smith point out that this approach usually requires the high level type of review board described a few sentences back.[7] It is their job to determine whether or not, for example, the Spanish or Colonial tradition is being preserved either within or as an extension to a specific existing neighborhood area. Many times the device is applied in order to preserve areas of historical significance such as Williamsburg, Virginia. Some of the same basic arguments which applied to the no-look-alike ordinances pertain here, although with a somewhat different emphasis. The principal factor in favor of this approach is its potential ability to protect what is good in both the design and siting of a local housing stock. However, this nucleus of design must be large and worth perpetuating in modern times. Properly drafted, such legislation is more positive than frankly negative no-look-alike zoning and can stimulate more aesthetic consciousness within a community. In criticism of the must-look-alike idea it is possible that, in the absence of a competent review board and under rather rigid, superficial legislation, some very odd and ugly contrasts of architectural forms can occur. There

is, moreover, the possibility that in incompetent hands poor architectural forms will be perpetuated or that distorted modern versions of good forms will be encouraged. An example of this last situation is the abridged modern version of the basically sound Cape Cod design. Finally, the possibility is strong with this type of ordinance that modern architectural designs of good quality will be forbidden entry into a local housing stock.

Spot Zoning of Architectural Styles

A few communities in the country have adopted zoning ordinances which are intended to control the introduction into a residential neighborhood of architectural forms which are not wanted by the immediate neighbors. In general these ordinances function only on complaint of citizens within a specific distance of the site of the proposed residence. For example, under such an ordinance if a homeowner learns that a house is to be built five lots distant from him in an architectural style which he thinks visually inappropriate and which he thinks will be a threat to the value of his own property, he can file a protest with the local building department. That department, upon issuance of a new home building permit, will place it in "cold storage" for a week pending just such complaints as the one described. At the end of a week, if no complaint has been registered, the permit is cleared for construction. If, however, one or more complaints have been filed, they will be investigated by a public review board which will decide whether or not construction should proceed. In some communities where this procedure is in force, prejudice against contemporary architecture or some aspect of contemporary, like the flat roof, is frequenty expressed.

It is rather difficult to appraise this aesthetic control technique because of its newness and variability from community to community. However, several general observations may be made in its favor. Clearly, under this type of control a sizeable proportion of the population of a city can become directly involved in questions of community aesthetics. There is no doubt that some citizen complaints will prevent unsightly clashes of style and damage to neighborhood symmetry. Simultaneously value

losses will either be prevented or delayed. The technique is an excellent means of preventing waves of "fad housing" of odd design with which some speculative builder hopes to make a killing. Zoning control of this kind can also be a means of overcoming the poor judgement of private architectural control boards. Many times these boards are no more than fronts for subdividers whose principal interest is a high rate of lot sales and who will, therefore, approve any house plan in order to close a sale on the land and to stimulate general construction activity within the plat. It is believed that public review boards, on the other hand, will act as a moderating influence to prevent the objections of overzealous citizens from impairing general community welfare.

In spite of the advantages to this method of design control, there are not a few weaknesses. One prominent drawback to the method is to be found in the rather personalized manner by which control is imposed. It is easy to imagine that individuals who wish to vent their spleen on another individual or the world at large will find this a convenient vehicle. Persons with very conservative views on design may play a role in this system completely out of proportion to their position in the community. Under this control system those with less conservative views might not be heard from at all. There is also an inherent danger in this type of restriction that individual design ideas of owners and architects will be stifled. Only the safe, generally accepted residence designs would prevail and the dull uniformity which we are trying to avoid by other means would be in the saddle. Prefabricated homes find themselves under particularly close scrutiny in such a system. The danger here is that the criticism will be of prefabrication rather than of inferior design. Another weakness which applies not only to this approach but to all the others as well, is the fact that no attempt is made to establish standards for measuring the quality of *interior* design which has a stronger effect on a succession of resident families than does the exterior design of the structure on the neighborhood and community at large. Finally, there are no built-in defenses in the system to assure either technical competence or political independence of

mind on the review board which is the original and usually final arbiter of design complaint cases.

Design of Urban Areas

The foregoing discussions point out that people who live in cities are becoming more conscious of design and style as it applies to land and buildings. At least a beginning has been made in this country at controlling the total visual composition that is made up of individual exterior home design. What seem to be even more significant conceptual steps have been taken in the formation of beautiful and meaningful neighborhood designs. Although the subject was not touched upon in this chapter, it is also true that the city planning profession has progressed a long way on the road to a more rationalized and integrated pattern for the city itself. The most concrete symbol of this progress is the division of the city into interrelated planning districts. However, a blind spot remains in our thinking, one which left unattended may undermine and destroy much of the good work that has been done to order and beautify our urban life. This blind spot is the wider urban area, the metropolitan area and its immediate hinterland. Here, for reasons detailed in the chapter on the city and the suburbs, urban growth has followed a pattern of reckless, bursting, uncontrolled expansion which is assuming an almost completely fragmented, chaotic form. So called "natural" tendencies are fashioning a pattern in this new version of the city. But it is a mindless creation, a morass whose sheer size, diversity, and rate of growth baffles scattered fumbling attempts at rational control. There are those who tell us that we cannot even begin to think of molding this new urban form until we are first in a position to control it. Others maintain that only by first conceptually planning or molding urban areas can we control them.[8] In the meantime this physical-cultural behemoth of our times which is the unleashed city thunders past us creating one of the most tragic modern instances of cultural lag. By its very nature this is a form of lag which cannot be corrected cheaply, quickly, or painlessly. Consider the complex web made up of substantial physical structures, fixed

land patterns and utility systems, billions of committed investment dollars, involved ownership arrangements, plus individual sentimental ties and the vested interests of local government. However, the longer we neglect this area of dramatic social change, the longer we delay the application of ordinary planning concepts and programs, the more tragic the results which are likely to ensue.

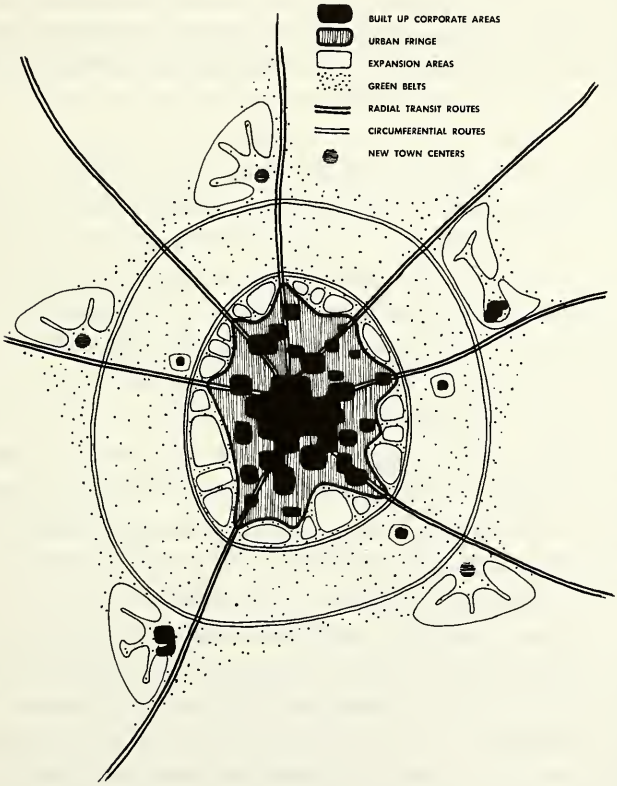
Let us look at some of the proposals both hypothetical and concrete which have been advanced as means of controlling the forms of our urban areas in an attempt to make them more beautiful as well as more efficient places of living, recreating, and working. Among the very general concepts on urban area design, the most important involve limitations on city size.

According to the English view as discussed by Ebenezer Howard, F. J. Osborn, and Patrick Abercrombie, the city should be limited in terms of area and population content. The city, under this concept, is surrounded by a roughly circular greenbelt of, let us say, five to ten miles radius which is devoted to agricultural activity, parks, golf courses, and forest preserves, and which serves as the passageway and entry area for belt highways, intra-city freeways and railways. In it would be located municipal airports, metropolitan water filtration and sewage disposal plants. Basically, however, the belt is intended to seal off the city from other urban growths and to provide the inhabitants a closer contact with natural surroundings. However, because city growth is inevitable in any dynamic economy it is provided for in the city size limitation idea. The process of adjustment to growth is well stated by Howard.

"How shall it grow? How shall it provide for the needs of those who will be attracted by its numerous advantages? . . . The town will grow; but it will grow . . . by establishing . . . another city some little distance beyond its own zone of 'country,' so that the new town may have a cluster of cities . . . so grouped around a Central City that each inhabitant of the whole group, though in one sense living in a small city, would be in reality living in, and would enjoy all the advantages of, a great and most beautiful city; and yet all the fresh delights of the country-

field, hedgerow and woodland—not prim parks and gardens merely—would be within a very few minutes' walk or ride."[9]

From Howard's description an urban area design conception emerges which is composed of city cells or urban nucleations placed in a green setting which is neither rural nor suburban but which provides open area uses, the greenness, and the pure open space that must be highly accessible to the city dweller if his way of life is to have human scale and balance (see Sketch 10). Our present wave of suburbanization is a groping in this



SKETCH 10
DESIGN FOR CONTROLLED URBAN AREA GROWTH

direction. It is however, doomed to defeat for many reasons not the least of which is the fact that the on-moving wave of the built-up city eventually engulfs the once isolated suburban town or subdivision development. Size limitation could prevent this engulfment and could also eliminate the ugly, inefficient sprawl of subdivisions, commercial uses, and traffic-attracted recreational operations along the principal highways leading into the city. These tentacles of urban expansion while objectionable in themselves also taint the hinterlands beside them. Such areas are rendered uneconomic for agriculture and ripe for vicious land speculation, which encourages the notorious practice of leap-frogging that in turn lengthens the radius of urban dispersion. With zones of expansion strictly specified and limited, the endless civil war of city versus suburb and suburb against suburb would come to an end.

By limiting the size of the city the potential for efficient operation is increased. Past a certain point in size many public services such as fire and police protection, street maintenance, park operation, and education become uneconomic. The problem of general city administration in urban agglomerations such as Tokyo, London, and New York becomes so immense that it defies the mental grasp of top experts. Production activities which involve goods movement over the choked street and internal transportation systems of the big cities are forced to lower and lower profit levels and ultimately to migration into more open areas where, within a few years, they may again experience the same nightmare. While excessive crowding of activities need not be a characteristic of city living it does seem to increase with city size. Keeping pace with rising size and crowding are all the physical, social, and mental ills that seem indigenous to megalopolis. While a limit on city size will not cure the economic ills of goods movement or the troubled mind of the apartment cliff dweller it will, we hope, abate these ailments substantially.

It is the further belief of those who argue for a limit on size that the advantages of size which are associated, for the most part,

with economic and cultural contacts and resources will not only be preserved but also heightened in their effectiveness. While the concentrated city would be fragmented, its radius of dispersion would be less than that of the metropolitan area at present. Moreover, the urban transportation network would be many times more efficient, thus making physical movement leading to face to face communication and cultural contacts in turn more effective and frequent. Inasmuch as many places of work would be dispersed along with population to adjacent nucleations the increasingly miserable journey to work of today's commuter would be substantially shortened in space and greatly accelerated in time. The nucleated nature of urban dispersion would moreover make public transit a profit operation over the entire metropolitan area rather than only at its heart. Finally, the reduced area and population size of each urban nucleation would increase the chance for an individual's identification with his community and with his fellow man. It is hoped that this condition would, in turn, lead to greater involvement of the individual in local political affairs and the debate of public problems.

Size limitation is not without substantial shortcomings as a theory. For one, we are in no way certain that we know what optimum size is for the modern city. Cost studies can be run in several different ways with results that are confusing. There is a very good chance that the optimum varies from area to area, over time, and with the economy of the city in question. Varying municipal administrative abilities and devices represent yet another variable of substantial proportions. Technology certainly plays a role in the determination of such optimums but how its effect is to be measured in setting limits to size remains a baffling problem. There is a very good chance that the largest metropolitan centers have reached their present size because of their over-riding efficiency and prestige which counterbalance many times over the weaknesses of giantism. If we fragment them, the efficiency and ultimately the prestige may be seriously undermined.

A further criticism of some importance strikes a philosophical note. While we as a people are efficiency minded, we also admire size and the absence of limitation on growth. Therefore, if are forced to choose, the chance is good that in the 20th century we will favor unlimited growth in the unit size of our cities over growth in efficiency and bitterly oppose the idea of fences and boundaries. As a matter of fact wherever green belts have put in an appearance here and abroad, they have usually been put under constant and often successful pressure for change to more intensive use. From a more detailed point of view a question must be raised concerning the expansion potential of industry. While growing population can be dispersed, this is not always true of a heavy industry which in order to survive must have more modern contiguous plant space. If an urban nucleation had reached its area limit and no lands were reclaimable within its limits, the efficiency of the industry and very possibly the economic welfare of the nucleus itself might be seriously impaired. In conclusion, there exists great skepticism concerning the legal means of effecting size control in this country. At present we have available the device of agricultural zoning. This has proved to be a very weak staff which has collapsed under relatively slight pressure. Conservation easements offer some hope but are largely untried in any comprehensive sense. Those who point toward the possibility of state control of metropolitan areas may have the most effective long run answer. But the political barriers and local vested interests that must be overcome before such control can be realized in any meaningful sense are mountainous. Witness the snail's pace of home rule metropolitan government in this country.

In the final analysis it may be that all we can agree on is Howard's observation that if we know the sort of towns that we want and we want them badly enough we shall and must find the political means to build them. It is, therefore, the major social challenge of our times that we fashion—and quickly—a vision of the city that will express the highest goals and values of civilized society.

NOTES

1. Lewis Mumford, *From the Ground Up* (New York: Harcourt, Brace and Company, 1956), p. 129.
2. *Ibid.*, p. 19.
3. Martin J. Rody, Herbert H. Smith, *Zoning Primer* (West Trenton, New Jersey: Chandler-David Publishing Co., 1960.) p. 46.
4. In New Rochelle, N. Y., for example, one-family dwelling design is controlled by stipulating that two buildings fronting on the same street within 150 feet of each other must not be substantially similar to each other in more than 3 out of 6 measurable respects." The six criteria include height of main roof; length of main roof; relative location of windows; location of garage and porch.
   Henry Fagin, *Zoning Advances* (New York: Regional Plan Association, Inc., 1956) p. 13.
5. *Ibid.*, p. 14.
6. *Ibid.*
7. M. J. Rody and H. H. Smith, p. 46.
8. F. J. Osborn has aptly pointed out that: "If we know the sort of towns we want, we shall be disposed, indeed we shall be impelled, to develop any governmental machinery necessary to produce them."
   F. J. Osborn, *Greenbelt Cities* (London: Faber and Faber Ltd., 1945) p. 18.
9. *Ibid.*, p. 49.

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Date Due

Due	Returned	Due	Returned
JAN 0 9 1989	JAN 0 9 1989		
DEC 0 9 2003			

Urban growth and redevelopment main
301.36A569u C.3
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